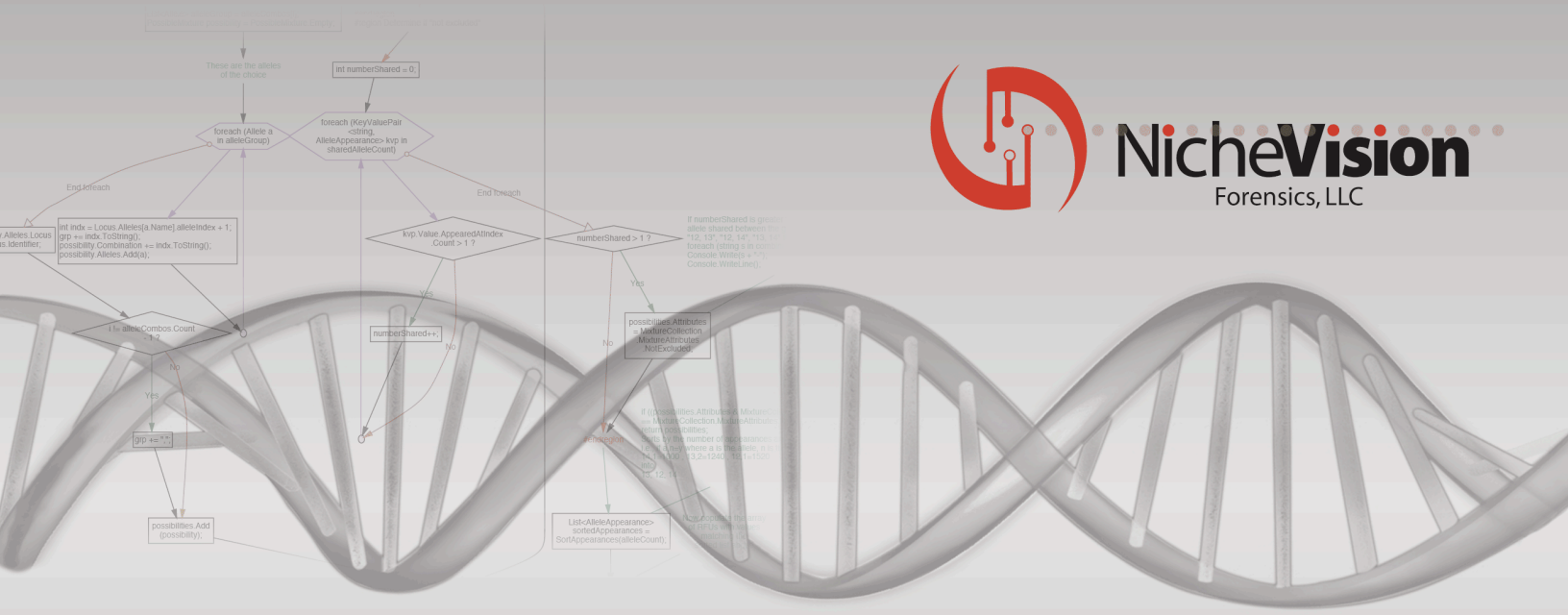
ARMEDXPERT™

Complete Case Management DNA Analysis Software



NicheVision Forensics, LLC

User Manual

Software Version 3.0.x

Rev 469

ArmedXpert™ User's Manual

© NicheVision Forensics LLC
526 S. Main Street • Suite 714G
Akron OH 44311
Phone 330.252.2711 • Fax 330.252-2713

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Chapter 1

Introduction

ArmedXpert™ – Developed by analysts for analysts.

ArmedXpert is a complete case management DNA analysis software. It allows users to perform Mixture Deconvolution for two or three contributors with the Mixture Interpretation Tool, which considers all possible combinations at each locus using lab-defined thresholds. It automatically generates statistics such as CPE/CPI, RMP, and Likelihood ratio. It allows the user to perform quality control checks, perform matching between evidence samples and references, check for potential contamination with staff profiles, and run a number of reports. Any page can be saved, viewed, or printed.

ArmedXpert consists of six tabs and an ArmedXpert menu. The ArmedXpert Menu is used to set default options and perform basic functions such as importing, exporting, and printing. The tabs are used to navigate through the different functions of ArmedXpert. Chapters 2 through 8 go through each of these in detail.

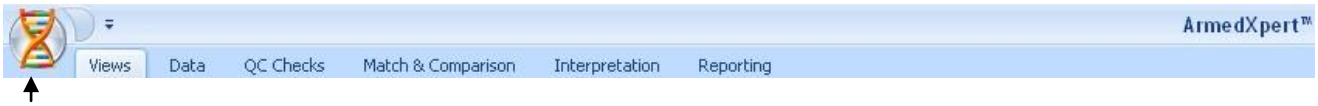


FIGURE 1.1 ArmedXpert Tabs

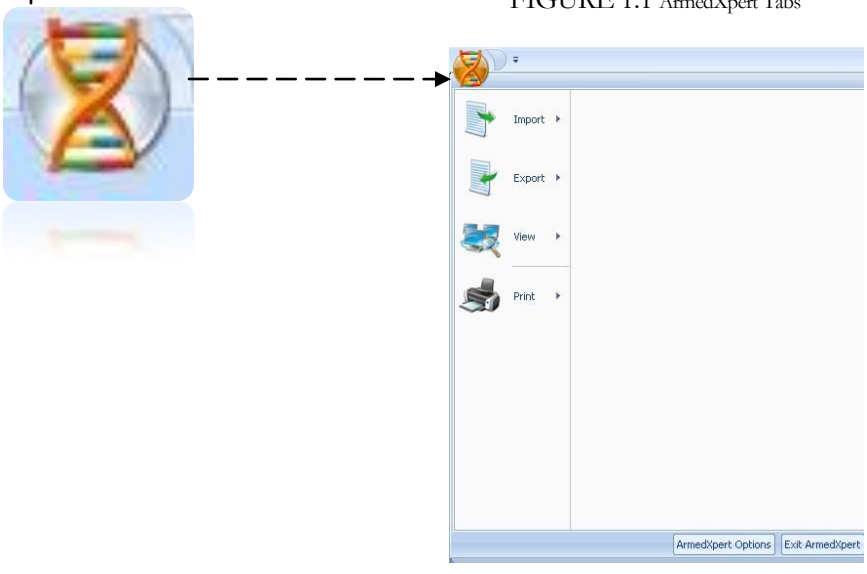


FIGURE 1.2 ArmedXpert Menu

ArmedXpert Specifications

Compatibility	
Operating Systems	Supports Windows 7, Vista, XP (32bit or 64bit)
Data Files	Imports ABI Genemapper ID or ID-X, Genemapper, or GeneScan Tables Imports OSIRIS .oer projects, Excel, CSV, or XML formats
Database	Password Protected with User roles in Microsoft SQL (32bit or 64bit). Easily manage multiple databases. Combine tables quickly with advanced sorting.
QC Checks and Matching	
Standards Checks	Control Checks, Allele Ordering, Max Stutter, Low Scale and Off Scale RFUs
CODIS QC	Allele formatting, Allele count, Check X, Off Scale Data, Peak Height Ratio
Comparisons	Find Where Reference is Included, Find Included to the Reference, Find Foreign to Reference, Find Where Reference Includes Foreign, List Foreign Alleles, Combine References and compare tables instantly
Interpretation	
Mixture Interpretation	Displays all possible combinations for 2 or 3 contributor scenarios. Flags possible stochastic effects. Allows for peak height ratio thresholds, minimum RFUs, minimum proportions, and max stutter per locus. Audit trail, real-time proportion charting and sort for possible DNA degradation
Statistics	Random Match Probability (RMP - Modified, Restricted, & Unrestricted), Likelihood Ratios (Restricted and Unrestricted), CPE/CPI (RMNE), and Single Source with relatedness. All stats can be generated automatically, saved, and opened without manual typing. There is no limit on number of population frequencies that can be stored.
Reports	Automated Sample vs. Database results, Total Data, and CODIS Disposition Forms. Checks, Samples, and Statistics fit single page format.
CODIS	Export Common Message Format (CMF) v 1.0, v3.0, v3.1, and v3.2

Signing into ArmedXpert

When you start ArmedXpert, the **Login** window will open. Enter your User name and password. Default user name is admin with no password. Click the "Ok" button.

Note: When you initially start ArmedXpert the first time and until you register, the Registration Dialog window will open before the Login window.

To clear your login in history, click on the "Clear login history" button.

FIGURE 1.3 Login Window

Changing the Database in ArmedXpert

To change the database that ArmedXpert is connected to, click on the "Options>>" button. The Connection Properties tab opens. Change from the available databases, by clicking on the ▼ next to Connection name box to choose between the available Connection Names.

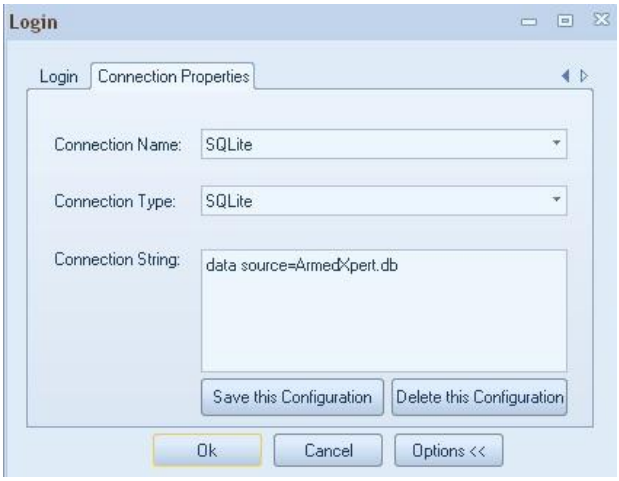


FIGURE 1.4 Connection Properties

Or add a new connection name, by clicking on the box next to "Connection Name." The box will appear in white and you can type in a new user defined name.

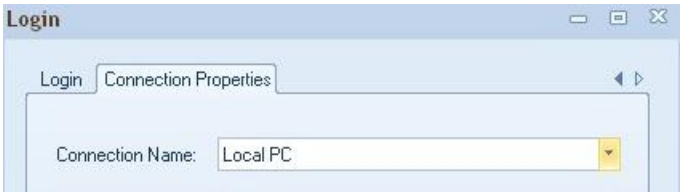


FIGURE 1.5 New Connection Name

Change the connection type by clicking on the arrow next to the "Connection Type" box. This will bring up a drop down list of available connection. Select the appropriate connection type.

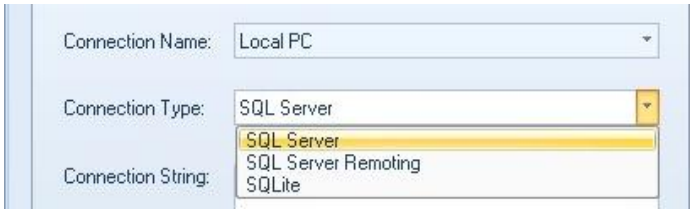


FIGURE 1.6 Changing Connection Type

Type in an appropriate Connection String. The Connection String for a SQLite connection can be changed to any user-defined name. Just highlight the current name shown and enter the new name. The current name shown in the example below is ArmedXpert. The .db file is created in the same folder as the ArmedXpert application.

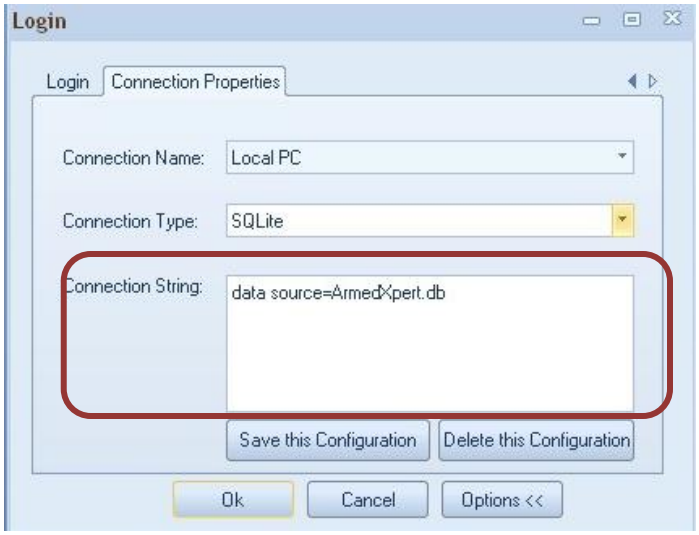


FIGURE 1.7 Connection Properties Window

ArmedXpert allows you to create multiply databases. You can share a database with another computer by copying the database from your computer to the other computer's ArmedXpert application folder. **Note:** When copying a database onto your computer from another's, make sure you do not already have a .db file with the same name. If so, rename one of the .db files, so that it is not overwritten.

Once finished, click on the "Save this Configuration" button. If the "Save this Configuration" button is not clicked, the connection configurations will be not used the next time you open the program. It will use the last saved configuration.

Finally, click the "Ok" button to connect to the server.

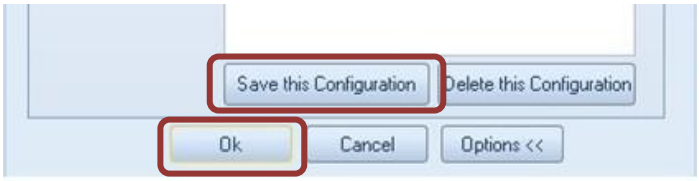


FIGURE 1.8 Connection Properties Window

Using the Demo Database in ArmedXpert

ArmedXpert contains a demo database. This database contains various Sample Tables that can be loaded to try out the various tools and features in ArmedXpert. It also contains a Staff and QA Profile. There are default settings, controls, and frequencies set up as well. The demo database can be used just as you would any other database.

To access to the Demo Database, follow the instructions above about changing the Database. Under the Connection Name drop down list, choose Sqlite Demo. All the other required information for the Type and String will automatically be filled in.

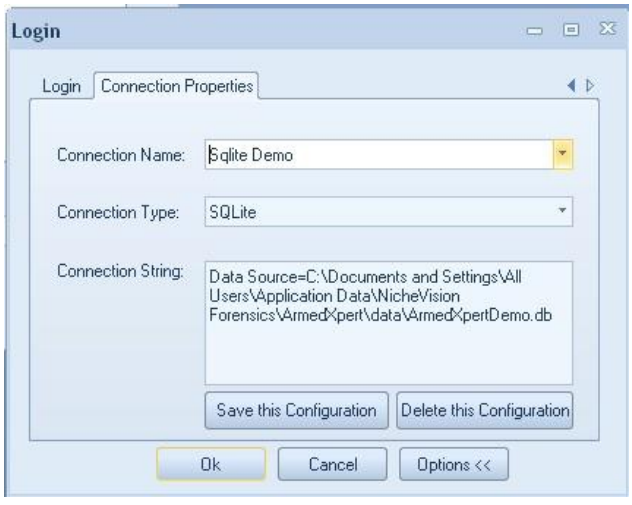


FIGURE 1.9 Connection Properties Window for Demo Database

To access the Sample Table & Profiles, click the "Load Samples from Data Source" button on the Data tab. There are complete instructions on how to use this feature starting on page 55 of this manual. You can also view the profiles, see page 35 for instructions.

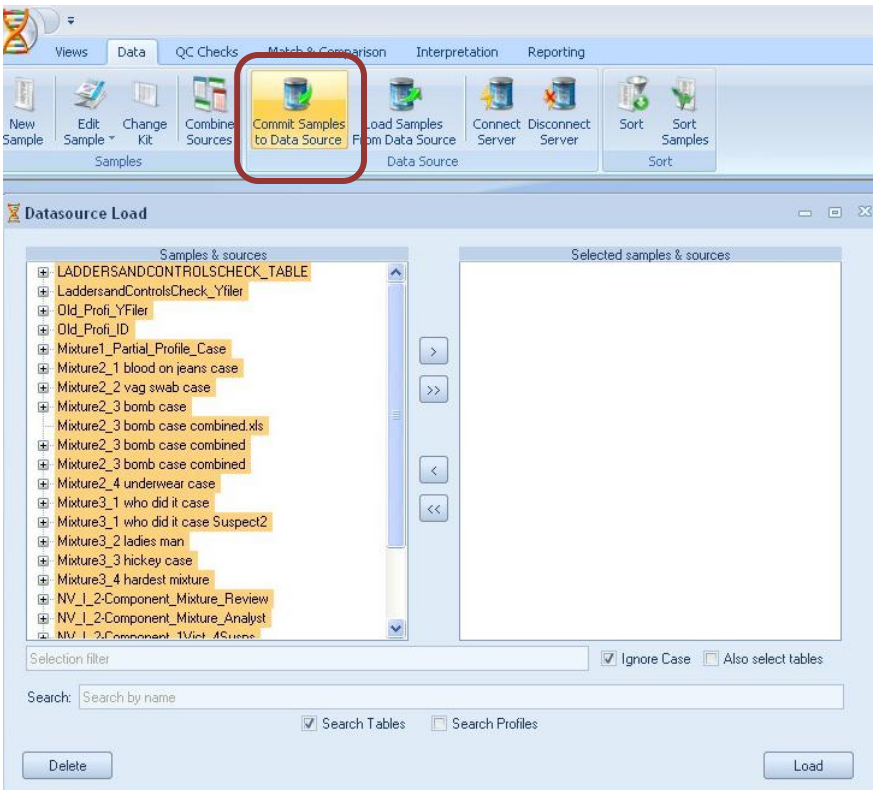


FIGURE 1.10 Sample Tables in the Demo Database

Several of the Sample Tables are from the PowerPoint Presentations on the ArmedXpert.com website. The PowerPoint Presentations are under the Mixture Workshop 2012 Section of the ArmedXpert.com website.

FIGURE 1.11 ArmedXpert Website

Chapter 2

ArmedXpert Menu

ArmedXpert has a main command menu. Click on the ArmedXpert icon on upper left hand corner of ArmedXpert to open the main menu. The left portion of the menu lists the following commands: **Import**, **Export**, **View**, and **Print.** On the bottom right hand corner is the "**ArmedXpert Options**" and "**Exit ArmedXpert**" buttons.

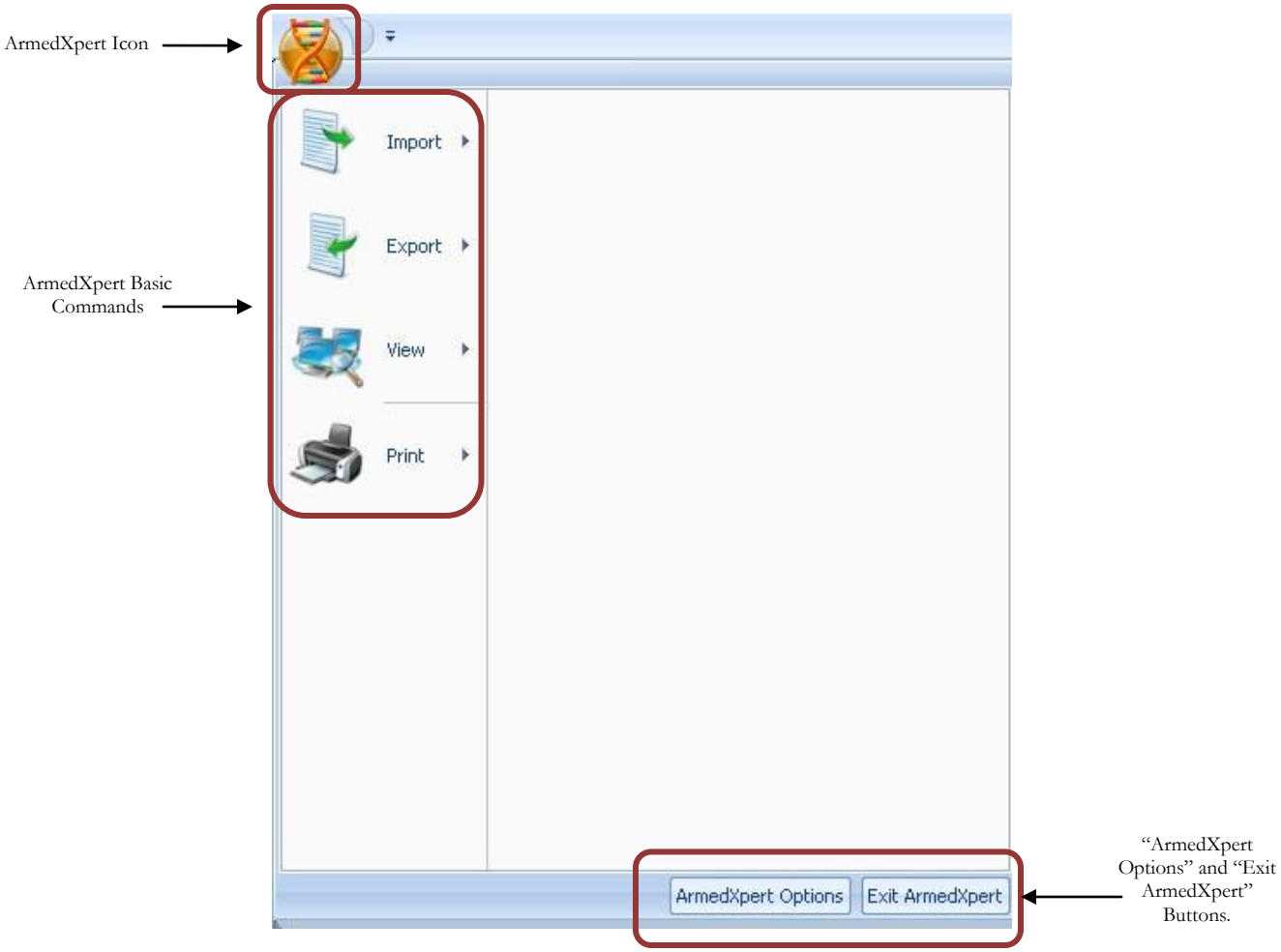


FIGURE 2.1 ArmedXpert Menu

ArmedXpert Options

Click on the "**ArmedXpert Options**" button to open the options or defaults for the program. There are six main sections: General, Data, Interpretation, Quality Control, Reporting, and Admin Console (On Administrator copies only). They are listed on the left side of the "ArmedXpert Option" Window. The options for each section are shown on the right hand side of the window. The section highlighted indicates which section's options are being shown. For example in Figure 2.2 below, General is highlighted on the left hand side, so the General view options are shown on the right hand side of the window.

Once the options are set, they will change for all current or subsequently opened files in ArmedXpert. You can go back into option window and the options can be changed as necessary. Click "Ok" to save the options you have selected. Click "Cancel" to close the Option window without changing the settings.

To obtain the software version information, click on the "**About ArmedXpert**" button on the bottom right hand corner of the window. The "About ArmedXpert" window will open and display the version number. Click "Ok" to close the window.

When a check appears next to each option, that option is active. Click on the box next to each option to remove a check that is shown or add a check to an empty box.

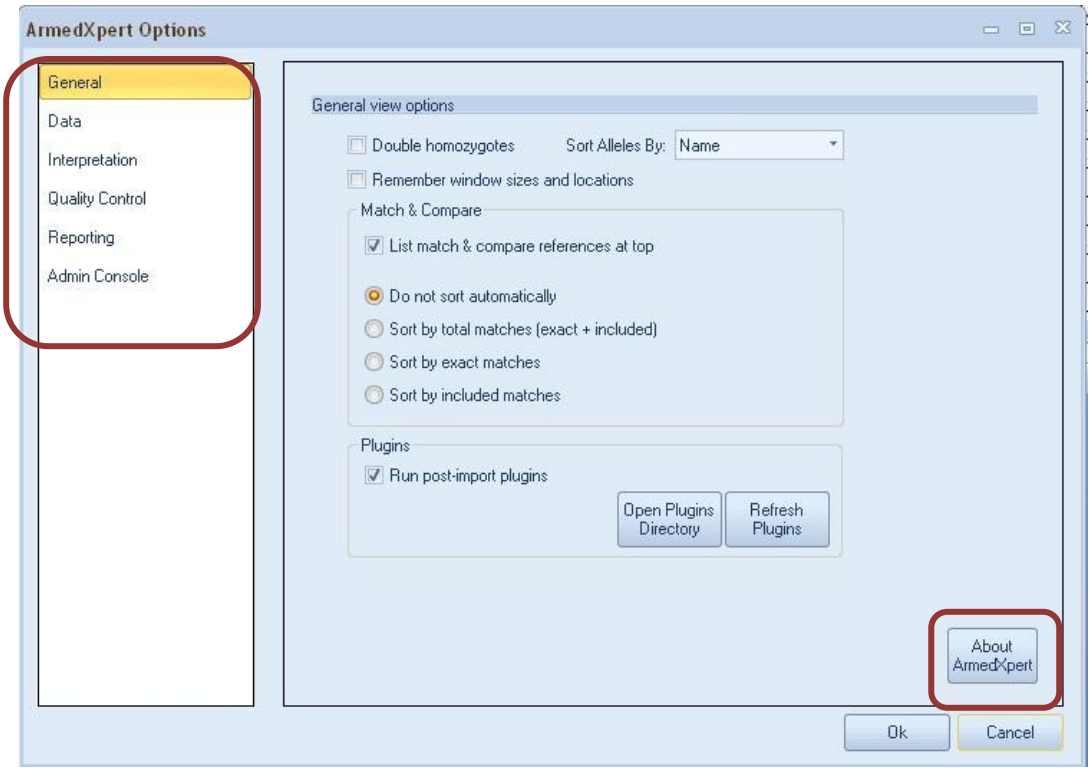


FIGURE 2.2 General view options

The first main section, **General** provides flexibility for how you can view your data. The first option allows double homozygotes to be displayed. The second option allows ArmedXpert to remember window sizes and locations when reopening. When checked, all windows that are reopened will open in the location and size that it was when closed previously. The third option, allows you to sort alleles in the sample table by None, Name, Base Pair, or RFU.

FIGURE 2.3 General View Options – first three options.

The fourth option lets you choose how the Match & Compare feature is viewed. To move the references used during the match and compare feature from the bottom of the page to the top of the page (as shown in Figures 2.5 & 2.6 below), click on the "List match & compare references at top" box. The four choices listed on the bottom of the Match & Compare section allow you to choose sorting options for your Match & Compare data. Click on the circle next to the option of your choice.

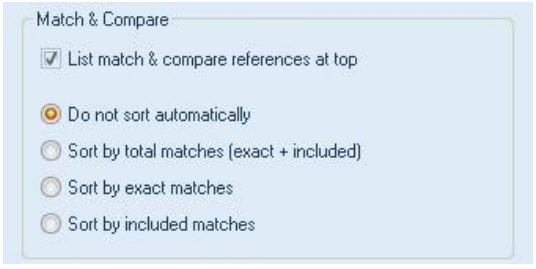
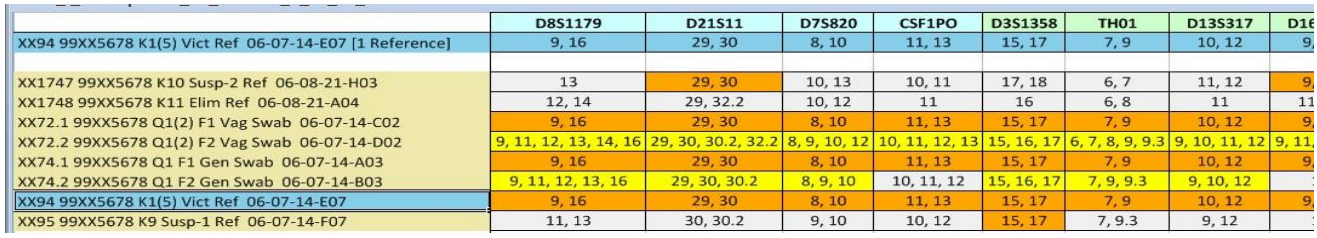
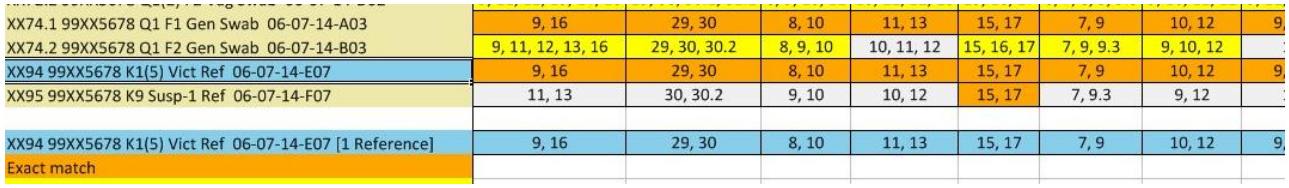

Match & Compare
List match & compare references at top
Do not sort automatically
Sort by total matches (exact + included)
Sort by exact matches
Sort by included matches

FIGURE 2.4 Match & Compare Section of the General View options.



	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16
XX94 99XX5678 K1(5) Vict Ref 06-07-14-E07 [1 Reference]	9, 16	29, 30	8, 10	11, 13	15, 17	7, 9	10, 12	9,
XX1747 99XX5678 K10 Susp-2 Ref 06-08-21-H03	13	29, 30	10, 13	10, 11	17, 18	6, 7	11, 12	9,
XX1748 99XX5678 K11 Elim Ref 06-08-21-A04	12, 14	29, 32.2	10, 12	11	16	6, 8	11	11
XX72.1 99XX5678 Q1(2) F1 Vag Swab 06-07-14-C02	9, 16	29, 30	8, 10	11, 13	15, 17	7, 9	10, 12	9,
XX72.2 99XX5678 Q1(2) F2 Vag Swab 06-07-14-D02	9, 11, 12, 13, 14, 16	29, 30, 30.2, 32.2	8, 9, 10, 12	10, 11, 12, 13	15, 16, 17	6, 7, 8, 9, 9.3	9, 10, 11, 12	9, 11,
XX74.1 99XX5678 Q1 F1 Gen Swab 06-07-14-A03	9, 16	29, 30	8, 10	11, 13	15, 17	7, 9	10, 12	9,
XX74.2 99XX5678 Q1 F2 Gen Swab 06-07-14-B03	9, 11, 12, 13, 16	29, 30, 30.2	8, 9, 10	10, 11, 12	15, 16, 17	7, 9, 9.3	9, 10, 12	
XX94 99XX5678 K1(5) Vict Ref 06-07-14-E07	9, 16	29, 30	8, 10	11, 13	15, 17	7, 9	10, 12	9,
XX95 99XX5678 K9 Susp-1 Ref 06-07-14-F07	11, 13	30, 30.2	9, 10	10, 12	15, 17	7, 9.3	9, 12	

FIGURE 2.5 Example of Reference at top option view.



XX74.1 99XX5678 Q1 F1 Gen Swab 06-07-14-A03	9, 16	29, 30	8, 10	11, 13	15, 17	7, 9	10, 12	9,
XX74.2 99XX5678 Q1 F2 Gen Swab 06-07-14-B03	9, 11, 12, 13, 16	29, 30, 30.2	8, 9, 10	10, 11, 12	15, 16, 17	7, 9, 9.3	9, 10, 12	
XX94 99XX5678 K1(5) Vict Ref 06-07-14-E07	9, 16	29, 30	8, 10	11, 13	15, 17	7, 9	10, 12	9,
XX95 99XX5678 K9 Susp-1 Ref 06-07-14-F07	11, 13	30, 30.2	9, 10	10, 12	15, 17	7, 9.3	9, 12	
XX94 99XX5678 K1(5) Vict Ref 06-07-14-E07 [1 Reference]	9, 16	29, 30	8, 10	11, 13	15, 17	7, 9	10, 12	9,
Exact match								

FIGURE 2.6 Example of the Reference at the bottom, if option is not checked.

The final section is for plug-ins. There is a separate guide on how to create a plug-in located on our support website – http://www.armedxpert.com/guides/2012/3/8/how-to-write-a-plugin-export-data.html. The buttons found in this section are used to enter your created plug-in into ArmedXpert.

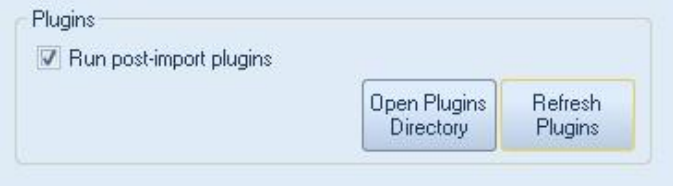


FIGURE 2.7 Plugins section.

First, you use the "Open Plugins Directory" button to load your plugin. This will open your Plugin Directory as shown below. Copy the Plugin in the correct folder. For example, if the plugin were a report plugin you would copy it in the reports folder. Once the plugin has been copied to the correct folder, click on the "Refresh Plugins" button. This will activate the plugin in ArmedXpert.

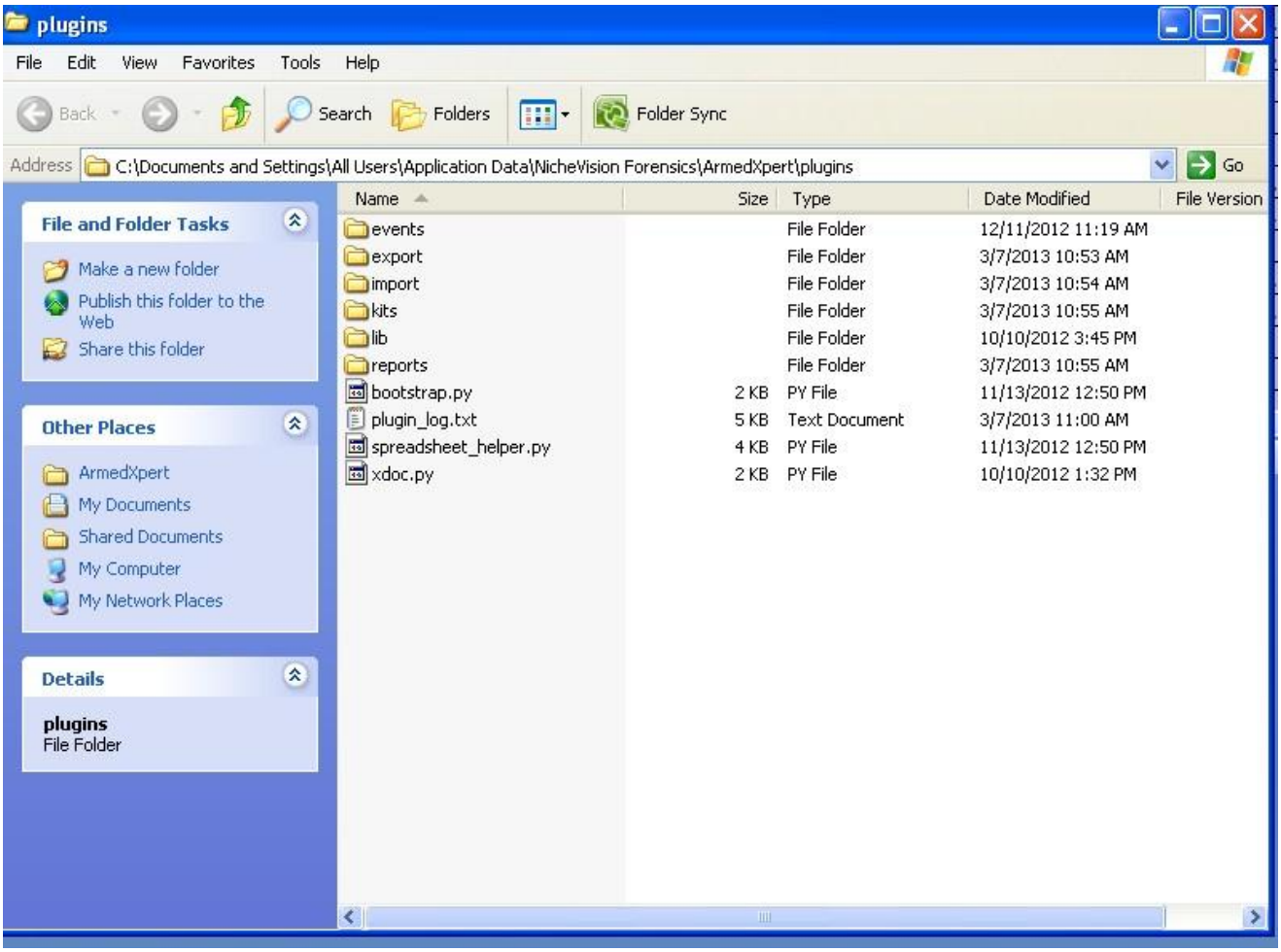

plugins
File Edit View Favorites Tools Help
Back Search Folders Folder Sync
Address C:\Documents and Settings\All Users\Application Data\NicheVision Forensics\ArmedXpert\plugins
Go
File and Folder Tasks
Make a new folder
Publish this folder to the Web
Share this folder
Other Places
ArmedXpert
My Documents
Shared Documents
My Computer
My Network Places
Details
plugins
File Folder
Name Size Type Date Modified File Version
events File Folder 12/11/2012 11:19 AM
export File Folder 3/7/2013 10:53 AM
import File Folder 3/7/2013 10:54 AM
kits File Folder 3/7/2013 10:55 AM
lib File Folder 10/10/2012 3:45 PM
reports File Folder 3/7/2013 10:55 AM
bootstrap.py 2 KB PY File 11/13/2012 12:50 PM
plugin_log.txt 5 KB Text Document 3/7/2013 11:00 AM
spreadsheet_helper.py 4 KB PY File 11/13/2012 12:50 PM
xdoc.py 2 KB PY File 10/10/2012 1:32 PM

FIGURE 2.8 Plugins Directory

The second main section is **Data**. This section allows you to assign allele exclusions to what is imported into ArmedXpert from your sample data. Any artifact that is listed and has a check mark will not be imported into ArmedXpert. There are a few default items already assigned in ArmedXpert.

You can add new exclusions by clicking the "Add Exclusion" button. This will allow you fill in an exclusion title first and then an artifact name.

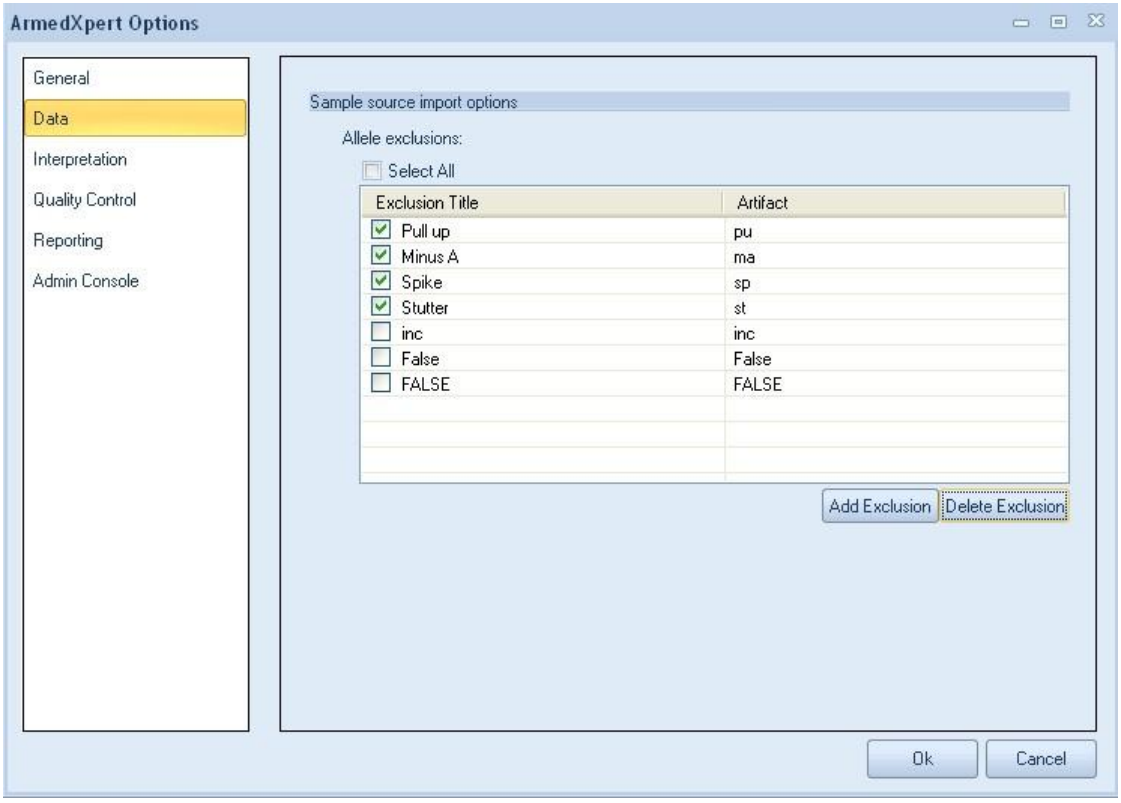


FIGURE 2.9 Data options

You can turn off an exclusion listed by clicking on the box next to each title and removing the check mark. Allele exclusions can be deleted from the list by clicking on the exclusion so it is highlighted, then clicking on the "Delete Exclusion" button. A confirmation message will appear to confirm that you would like to delete it. Click "Yes" to complete the deletion.

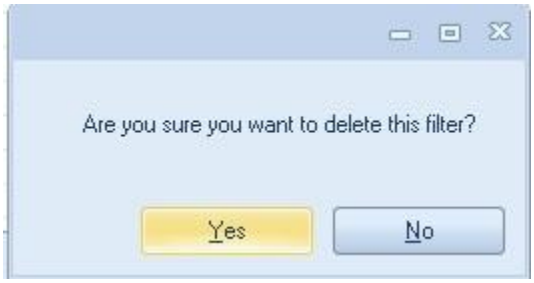


FIGURE 2.10 Delete Confirmation Window

The third main section is **Interpretation**. This section has four subsections: Mixture Interpretation, Quality Control, Frequencies, and Frequency Options.

The first subsection, **Mixture Interpretation** is made up of two sections.

The top section contains different Mixture Interpretation Window settings and defaults.

FIGURE 2.11 Mixture Interpretation settings

You can set default values for the Peak Height ratio (PHR), minimum Peak Height (mPH), Homozygote Threshold (HT), and the minimum Proportion (mP). You can also set the default stutter percentage that is used. To do this, add the appropriate default values into the box right of each type. Once set the mixture interpretation window will only show allele possibilities equal or greater than the value set. For example, if the minimum peak height (mPH) is set at 50 as shown below, the Mixture Interpretation Window will only include allele possibilities equal to or greater than 50 mPH.

Note: The mixture interpretations settings can be changed in the Mixture Interpretation Window for a specific sample or locus. This does not change the default settings for the software. The default settings can only be set through this window.

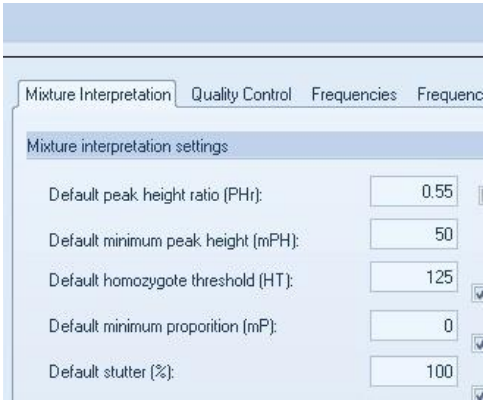


FIGURE 2.12 Mixture Interpretation settings

The "Warn when specified contributors different than mixture" setting when activated will give you a warning message anytime the number of contributors used in the mixture interpretation window is different than the number of contributors in the Mixture Interpretation Frequency Window.

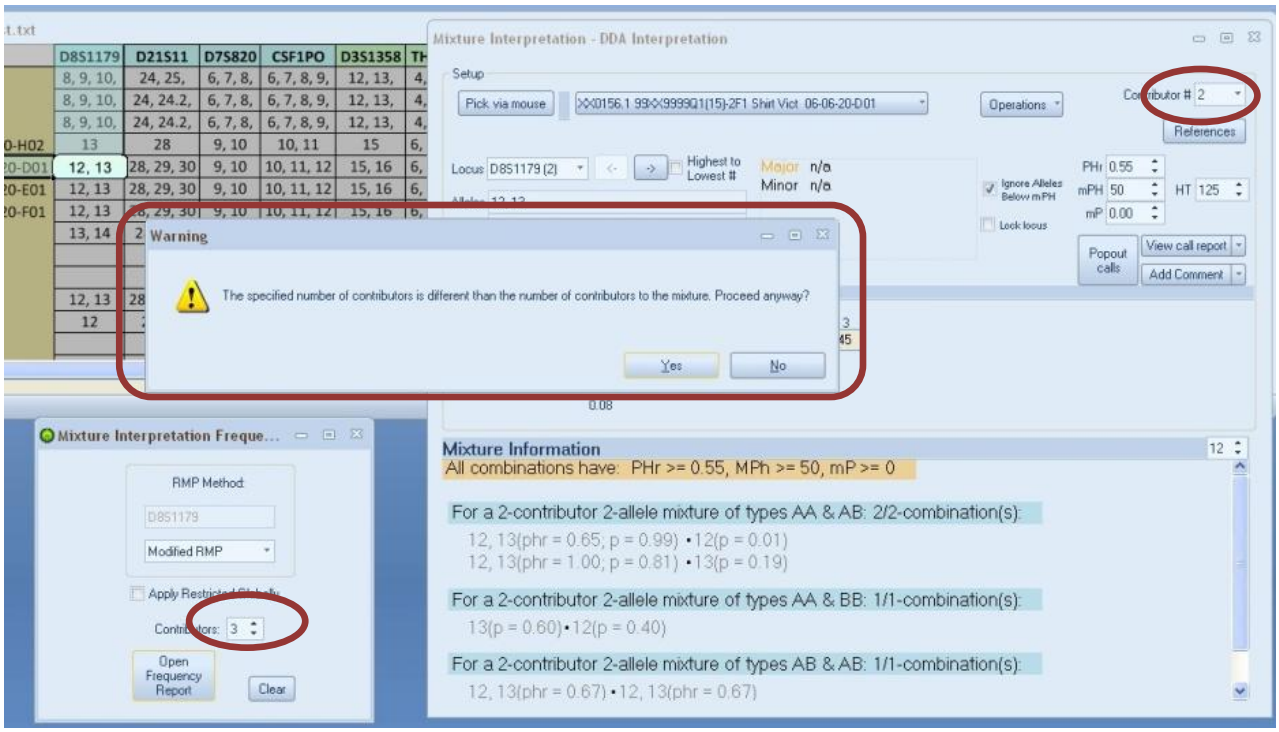

Mixture Interpretation - DDA Interpretation
Warning
The specified number of contributors is different than the number of contributors to the mixture. Proceed anyway?
Yes
No
Mixture Interpretation Freque...
RMP Method
Modified RMP
Open Frequency Report
Clear
Mixture Information
All combinations have: PHr >= 0.55, MPh >= 50, mP >= 0
For a 2-contributor 2-allele mixture of types AA & AB: 2/2-combination(s):
12, 13(phr = 0.65; p = 0.99) •12(p = 0.01)
12, 13(phr = 1.00; p = 0.81) •13(p = 0.19)
For a 2-contributor 2-allele mixture of types AA & BB: 1/1-combination(s):
13(p = 0.60)•12(p = 0.40)
For a 2-contributor 2-allele mixture of types AB & AB: 1/1-combination(s):
12, 13(phr = 0.67) •12, 13(phr = 0.67)

FIGURE 2.13 Warning

The sort loci by allele count option, displays the loci with the largest number of alleles first in the Mixture Interpretation Window. It is the same as checking 'Highest to Lowest #' in the Mixture Interpretation Window. The List proportions as dilutions (1:X) option, displays the proportion as dilutions ratios in the mixture interpretation window. Click on the box next to each to turn these features on or off.

This section also has two save options available for the Mixture Interpretation Window. The "Prompt to save on window close" option will bring up a confirmation window asking you to save or not when you close the Mixture Interpretation Window. The "Prompt to save on application close" option will do the same thing if you close ArmedXpert and the Mixture Interpretation Window is open.

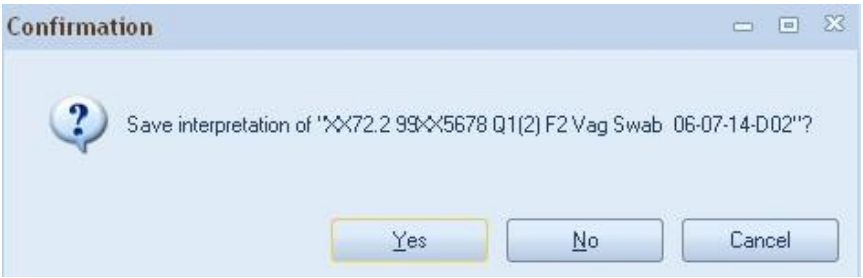


FIGURE 2.14 Confirmation Window

The bottom section is the Profile naming scheme section. It allows you to set up names for the profiles used in the Mixture Interpretation Window.

The left hand side of the section is to set up default names. Add a check mark next to each item that you would like to appear in the name. The Preview section will show you an example of what your profile name will look like. The text can be changed to any text that you wish. "Profile" is shown as an example. Auto number will just add another number to last number used during the time the software is opened. The numbers will start at 01, and proceed up from there. The Date and Time field add the current date or time to the profile name at the time the mixture interpretation window was opened. The Sample Name will add the sample used for the mixture interpretation to the profile name.

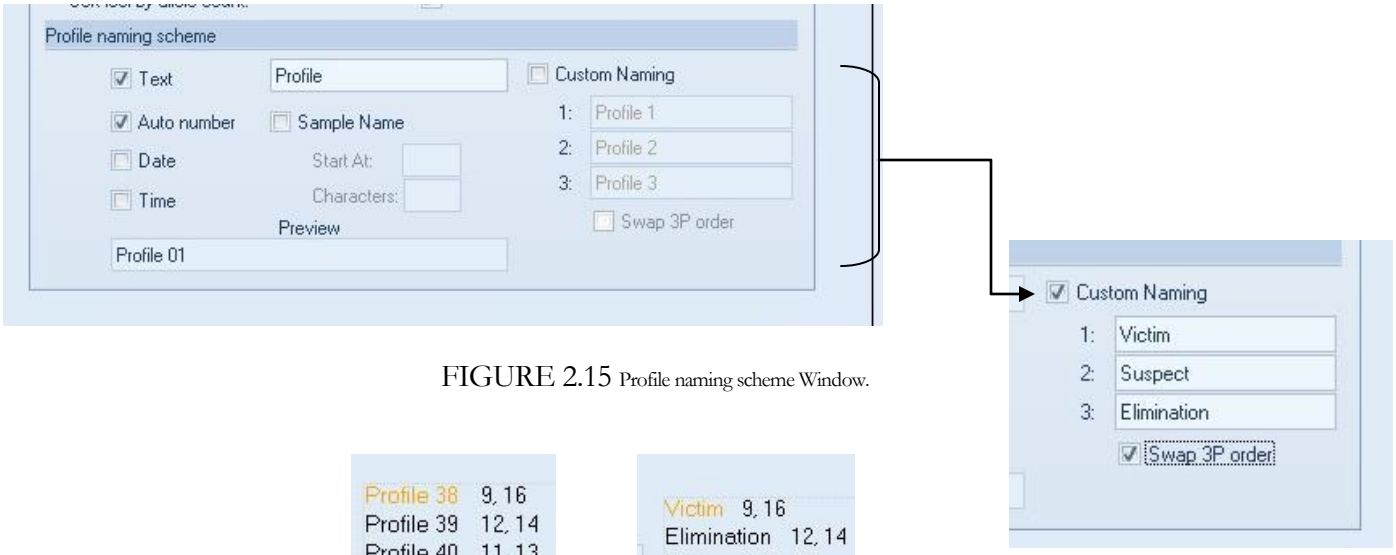


FIGURE 2.15 Profile naming scheme Window.

FIGURE 2.16 Examples of what the Profiles look like in the Mixture Interpretation Window.

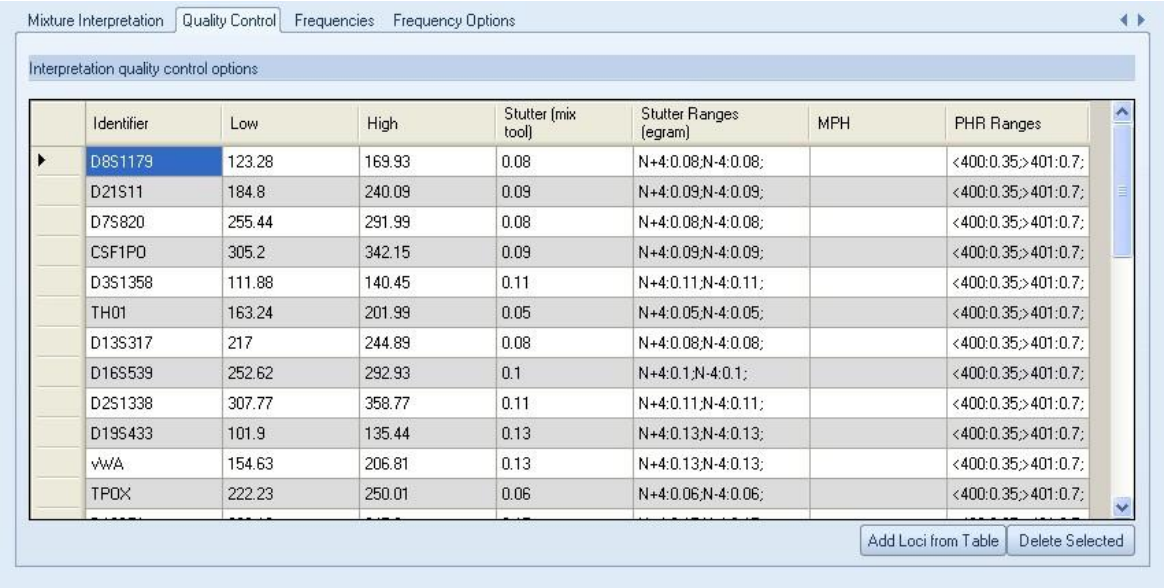
The right hand side is for custom naming. To enable Custom Naming, place a check mark in the box next to "Custom Naming" and turn off all check marks on the left hand side. Enter a name in each profile box. These profile names will appear each time the mixture interpretation window is opened. The "Swap 3P order," allows the third profile to swap to the second position in a three-person mixture. This enables an elimination profile to move ahead of the suspect profile when applying references (see note below).

Note: References are added in order of profiles when using the auto-call reference feature in the Mixture Interpretation Window. For example, the first reference is added to the first profile and the second reference is added to the second profile. So, make sure you keep this in mind when assigning custom naming.

Note: All profile names can be manually renamed in the Mixture Interpretation Window regardless of these settings.

The second subsection is the Interpretation **Quality Control** options. This section displays the thresholds used during the check controls. It displays the stutter amount used for each Locus. These can be changed by each locus. Click in the cell you would like to change and type a new amount.

You can also add a MPH (minimum peak height) for each Locus separately. You can use this feature for one specific Locus or all the Loci. Just type in the appropriate MPH in the row for the appropriate Locus. Proceed to the next Locus if necessary until you have added all appropriate MPH values. If no amount is filled in the MPH, the default values will be used.



Identifier	Low	High	Stutter (mix tool)	Stutter Ranges (egram)	MPH	PHR Ranges
D8S1179	123.28	169.93	0.08	N+4:0.08;N-4:0.08;		<400:0.35;>401:0.7;
D21S11	184.8	240.09	0.09	N+4:0.09;N-4:0.09;		<400:0.35;>401:0.7;
D7S820	255.44	291.99	0.08	N+4:0.08;N-4:0.08;		<400:0.35;>401:0.7;
CSF1PO	305.2	342.15	0.09	N+4:0.09;N-4:0.09;		<400:0.35;>401:0.7;
D3S1358	111.88	140.45	0.11	N+4:0.11;N-4:0.11;		<400:0.35;>401:0.7;
TH01	163.24	201.99	0.05	N+4:0.05;N-4:0.05;		<400:0.35;>401:0.7;
D13S317	217	244.89	0.08	N+4:0.08;N-4:0.08;		<400:0.35;>401:0.7;
D16S539	252.62	292.93	0.1	N+4:0.1;N-4:0.1;		<400:0.35;>401:0.7;
D2S1338	307.77	358.77	0.11	N+4:0.11;N-4:0.11;		<400:0.35;>401:0.7;
D19S433	101.9	135.44	0.13	N+4:0.13;N-4:0.13;		<400:0.35;>401:0.7;
vWA	154.63	206.81	0.13	N+4:0.13;N-4:0.13;		<400:0.35;>401:0.7;
TPOX	222.23	250.01	0.06	N+4:0.06;N-4:0.06;		<400:0.35;>401:0.7;

FIGURE 2.17 Interpretation Quality Control Options

You can set up stutter intervals that determine stutter in the sample table and egrams. Add the appropriate amounts for each Locus. Used the + sign to add additional values. Click on the X to delete a value. An example is shown below.

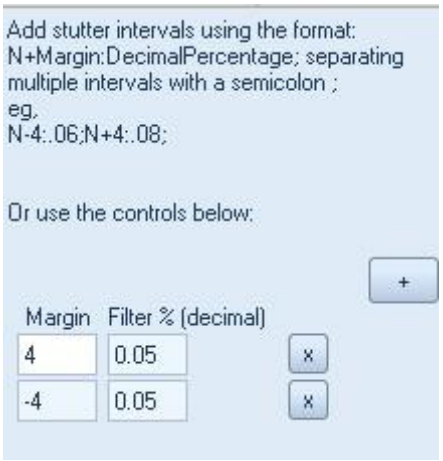


FIGURE 2.18 Stutter Ranges Window Example

If you have multiple Phr, ArmedXpert has a PHR Range feature. The PHR Range (peak height ratio) is for each separate locus. To add a range, click on the PHR Range cell next to the appropriate Locus. The window show below will appear. You can type a Minimum rfu value with an appropriate Phr and/or a Maximum rfu value with an appropriate Phr. Click on the + button to add another range. To delete a range, click on the X next to the appropriate range. An example is of the PHR window filled out is shown below. In this example, we are saying that alleles that have an rfu value over 1000 have a Phr of .60 and ones that are under 1000 have a Phr of .40. This would be reflected for the appropriate Locus in the Mixture Interpretation window.

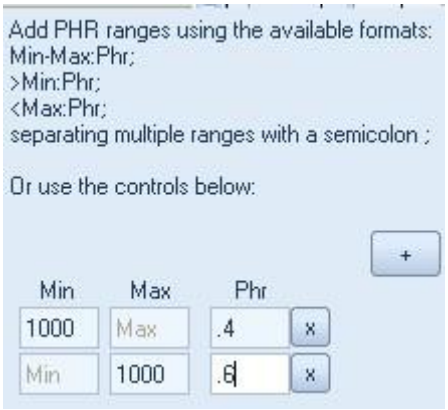


FIGURE 2.19 Multiple PHR Range Window Example

You can add loci from a sample table by clicking on the "Add Loci from Table" button. The sample table needs to be opened in ArmedXpert.

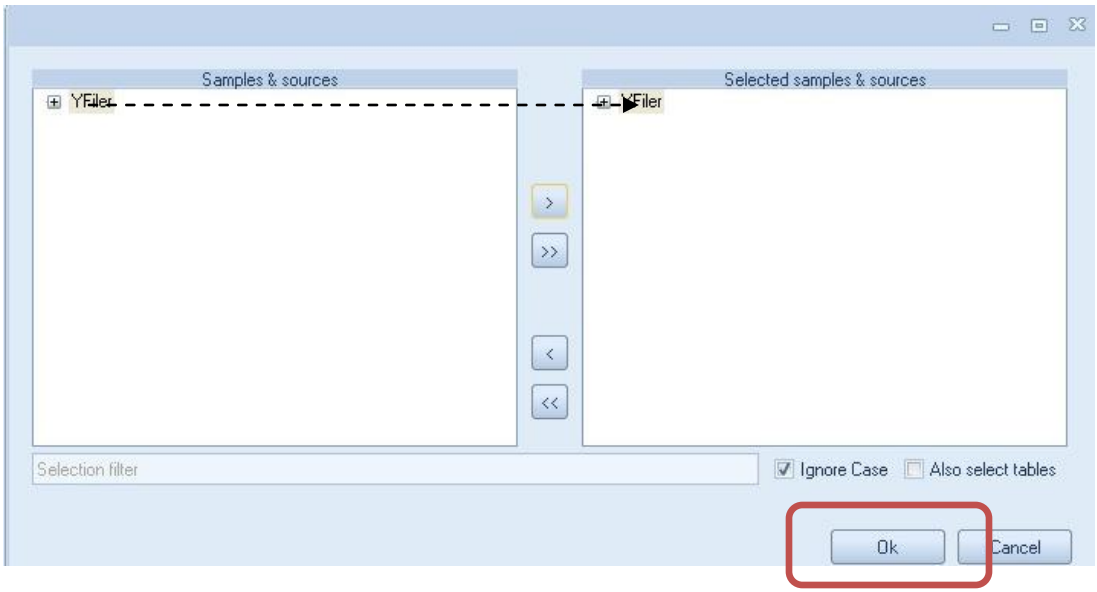


FIGURE 2.20 Select Table Window

A window with all the Loci from the table will open. A check mark is shown next to each Locus. Click on any of the boxes next to a Locus to remove a check mark for any Locus that you do not want to add. Click the "Ok" button to add the Loci.

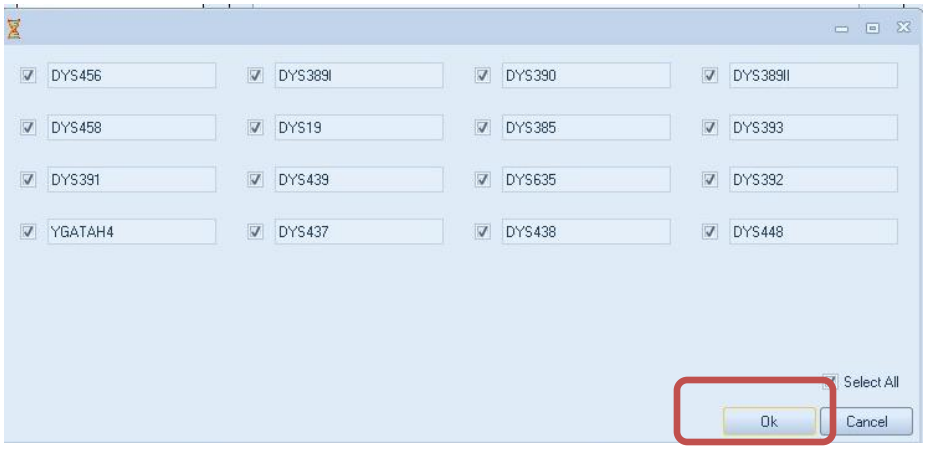


FIGURE 2.21 Loci Window

The Quality Control tab opens back up with all the new Loci that have been added. Add the necessary amounts for each Locus and when finished click the "Ok" button.

The "Delete Selected" button is used to delete the item selected.

The third subsection is **Frequencies** options. The top half of the screen, allows you to choose which frequency tables are enabled for frequency calculations. A check indicates that table is enabled for the frequency reports. Click on the box next to each option to add or remove a check in the box. The Theta amount can be changed here by clicking in cell next to each race in the Theta column and typing a new Theta value. The bottom half of the screen, allows you to choose the source of frequency ratios the system will use.

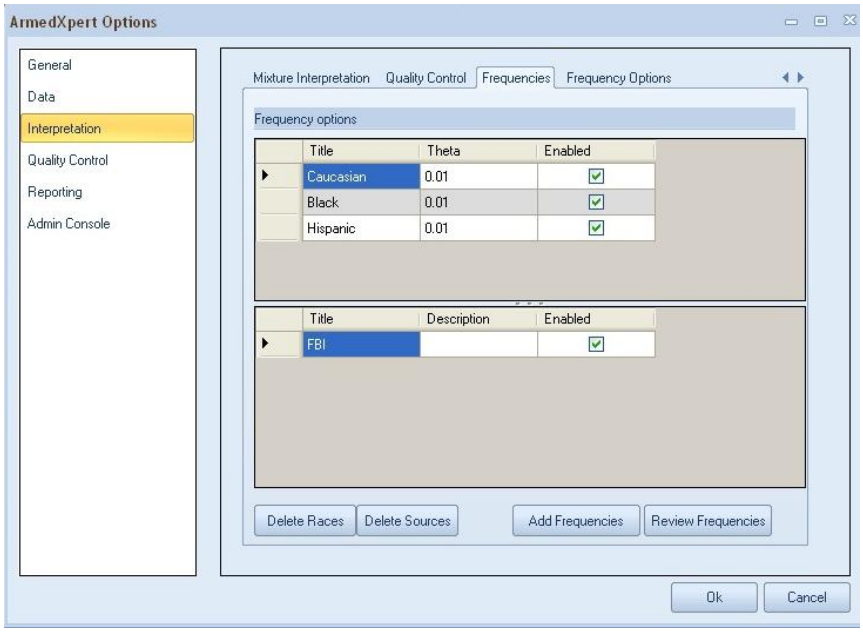


FIGURE 2.22 Frequency Options

Clicking on "Delete Races" or "Delete Sources" will permanently delete a Race or Source. Make sure you actually would like to delete them before clicking on either of these buttons.

Click on the "Add Frequencies" button, to add Frequencies. Begin by typing in the source name. Then manually enter in new frequencies, paste in frequencies, or import frequencies from a file. Each of the three methods is explained below. Once all frequencies have been added, click on the "Commit" button.

Note: Make sure you enter in all the data correctly. The Race and Locus cannot be edited later. Therefore, if either is incorrect, they cannot be changed once you commit the frequencies to ArmedXpert.

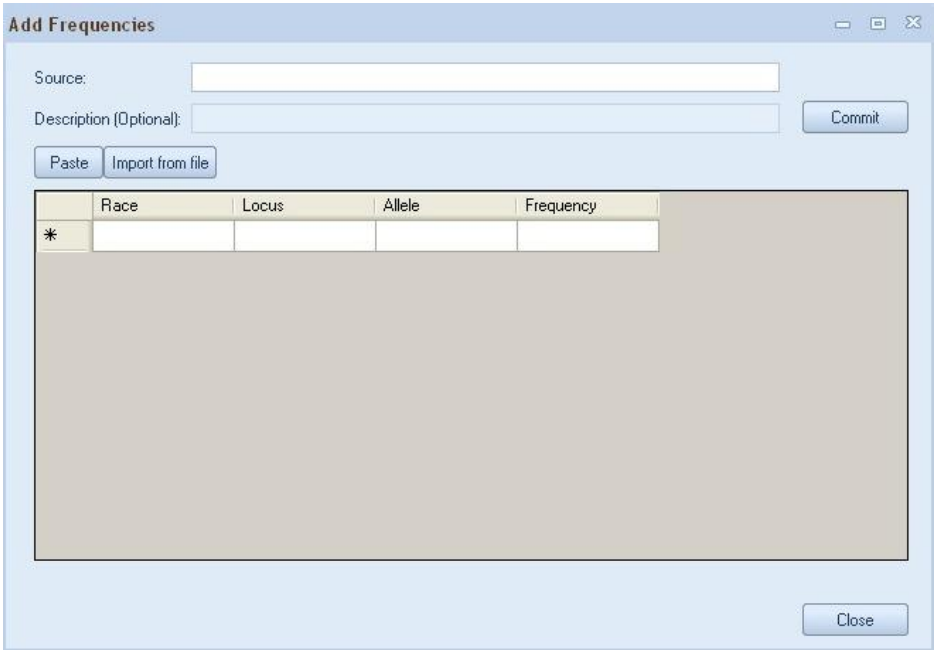


FIGURE 2.23 Add frequency window.

Method One: To manually enter new frequencies, start at the first box under the Race column. Enter in the correct race. Then proceed by clicking on the tab key to each next column. Type in the locus, then the Allele, and finally the Frequency amount. Clicking on the tab key will take you to the next line. Continue manually filling in all the data. Once finished, you are ready to commit the frequencies.

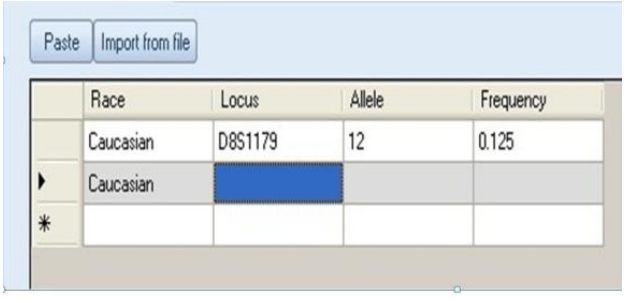
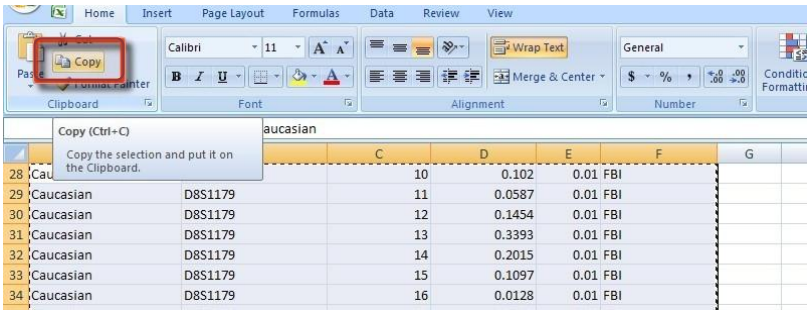


FIGURE 2.24 Manually add frequency window.

Method Two: To paste in the frequencies, first open the data into excel. It should be in the same order, Race, Locus, Allele, and Frequency. Highlight all the data you want to paste into ArmedXpert. Click the Copy button in Excel.



28	Cau		10	0.102	0.01	FBI
29	Caucasian	D8S1179	11	0.0587	0.01	FBI
30	Caucasian	D8S1179	12	0.1454	0.01	FBI
31	Caucasian	D8S1179	13	0.3393	0.01	FBI
32	Caucasian	D8S1179	14	0.2015	0.01	FBI
33	Caucasian	D8S1179	15	0.1097	0.01	FBI
34	Caucasian	D8S1179	16	0.0128	0.01	FBI

FIGURE 2.25 Copy Frequencies from Excel.

Go back to ArmedXpert and click on the Paste button. All the data will show up in the Text Import Window. Click the OK button. All the data will show up in the Add Frequency window. Once finished, you are ready to commit the frequencies.

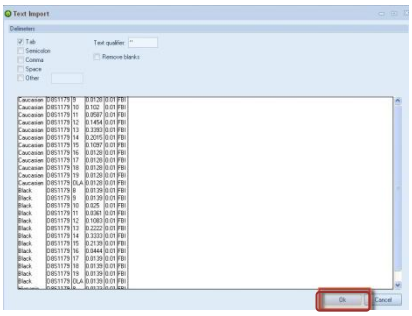


FIGURE 2.26 Text Import Window.

Method Three: To import a .txt or.csv file containing your frequencies, click on the Import from file button. Select the appropriate .txt or .csv file from the Open window. The Text Import window will open. Click the "Ok" button. All the frequency data will appear in the Add Frequencies window. Once finished, you are ready to commit the frequencies.

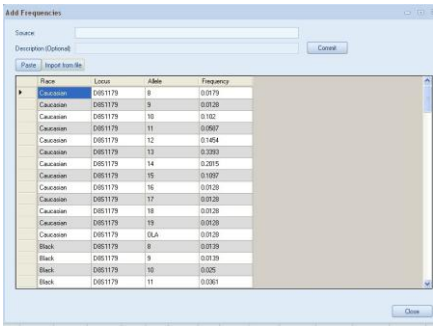


FIGURE 2.27 Add Frequency Window.

Click on the "Review Frequencies" button, to review Frequencies. You can also make changes to the Frequencies from the review Frequencies window. Just type the appropriate change in the cell. Once, you have made your changes, click on the "Commit" button.

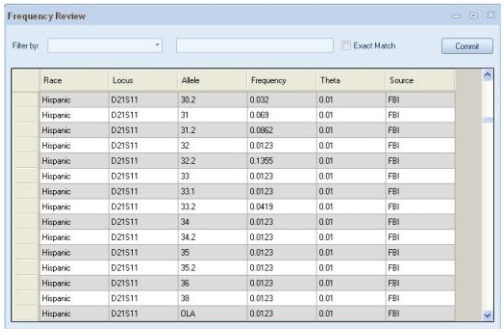


FIGURE 2.28 Frequency Review Window with frequencies.

The fourth subsection is additional **Frequency Options**. The top section allows you to set the single source frequency calculation database size and gives you a choice to either use Theta or not. The middle section allows you the option to use Theta or not for the RMP calculation. It also gives you an option to include Locus Detail in the RMP calculation report. The bottom section, allows you set the number of significant digits displayed in the frequency calculations. It also gives you a choice of prompting to save on the window or application close for a frequency calculation page.

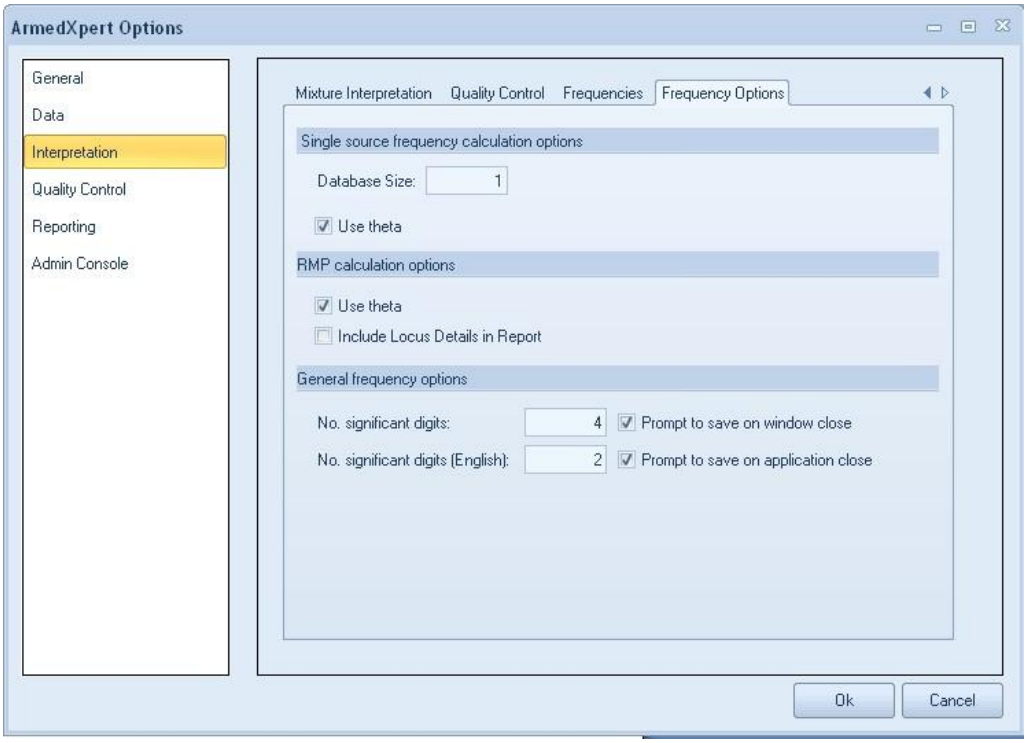


FIGURE 2.29 Frequency Options window.

The fourth main section is the **Quality Control** section. This section has two subsections: Options and Ladder and Controls. The Quality Control settings are used during the Quality Control Checks. The Quality Control Checks are discussed in Chapter 5.

The first subsection, **Options** contains the settings that are used during certain RFU and CODIS Quality Control Checks. The top section allows you to set the RFU quality control options. You can set the "Low scale data" figure and the "Off scale data" settings, by entering the required amount in each box. The bottom section allows you to set the CODIS quality control options. You can set the OSD (off scale data) and the PHR Imbalance settings, by entering the required amounts in each box.

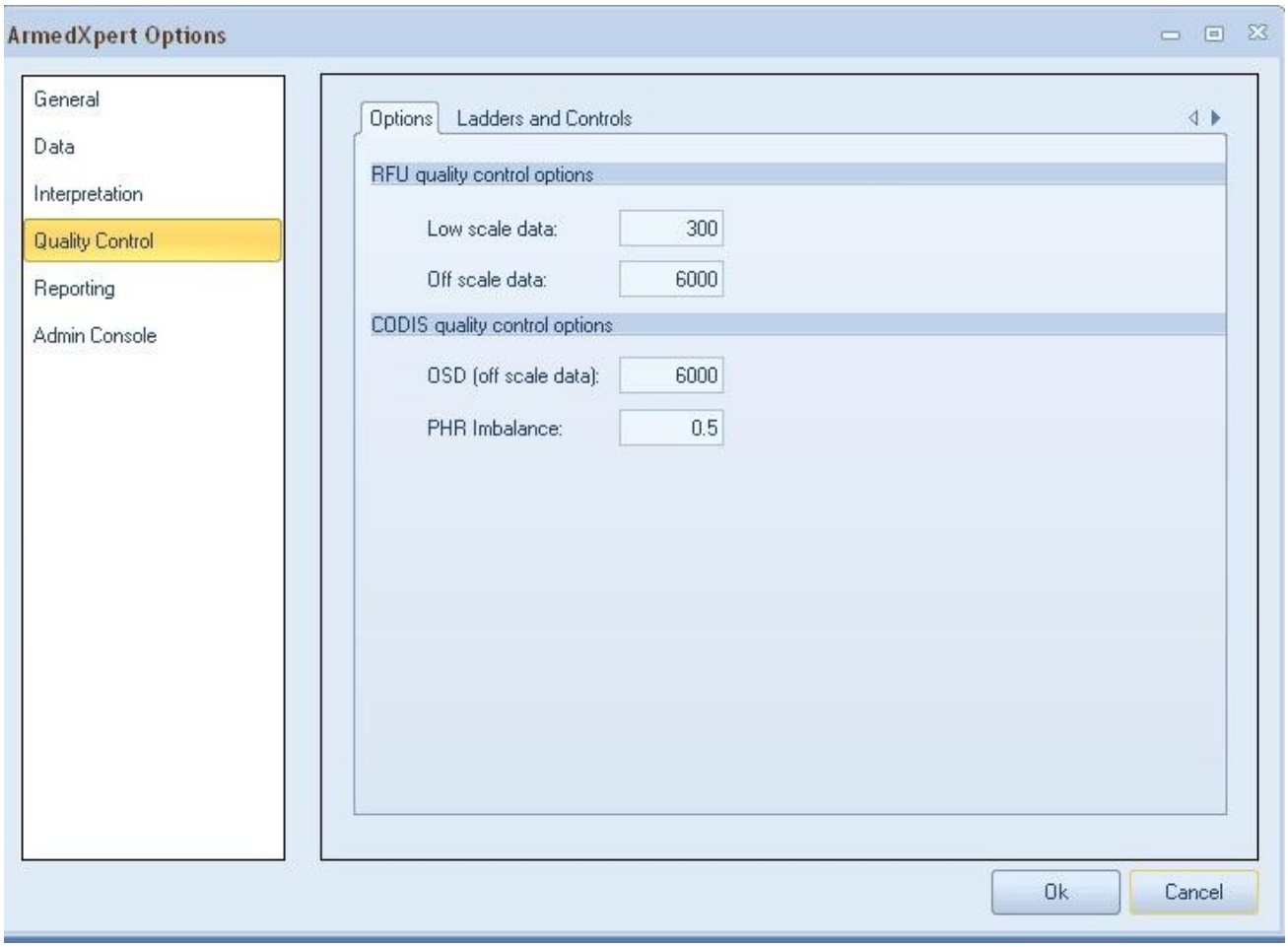


FIGURE 2.30 Quality Control Options window.

The second subsection, **Ladder and Controls** contains the settings that are used during the Check Controls Quality Control Check. The top portion has the Control qualifiers. These can be changed by clicking on the Expression column in the row that you would like to change and then change to the correct expression. The expressions are using regular expressions.

This allows all controls to be picked up during the quality control check. For example, ."Ladder." will pick up any control that contains the word Ladder, no matter what characters are before or after the word.

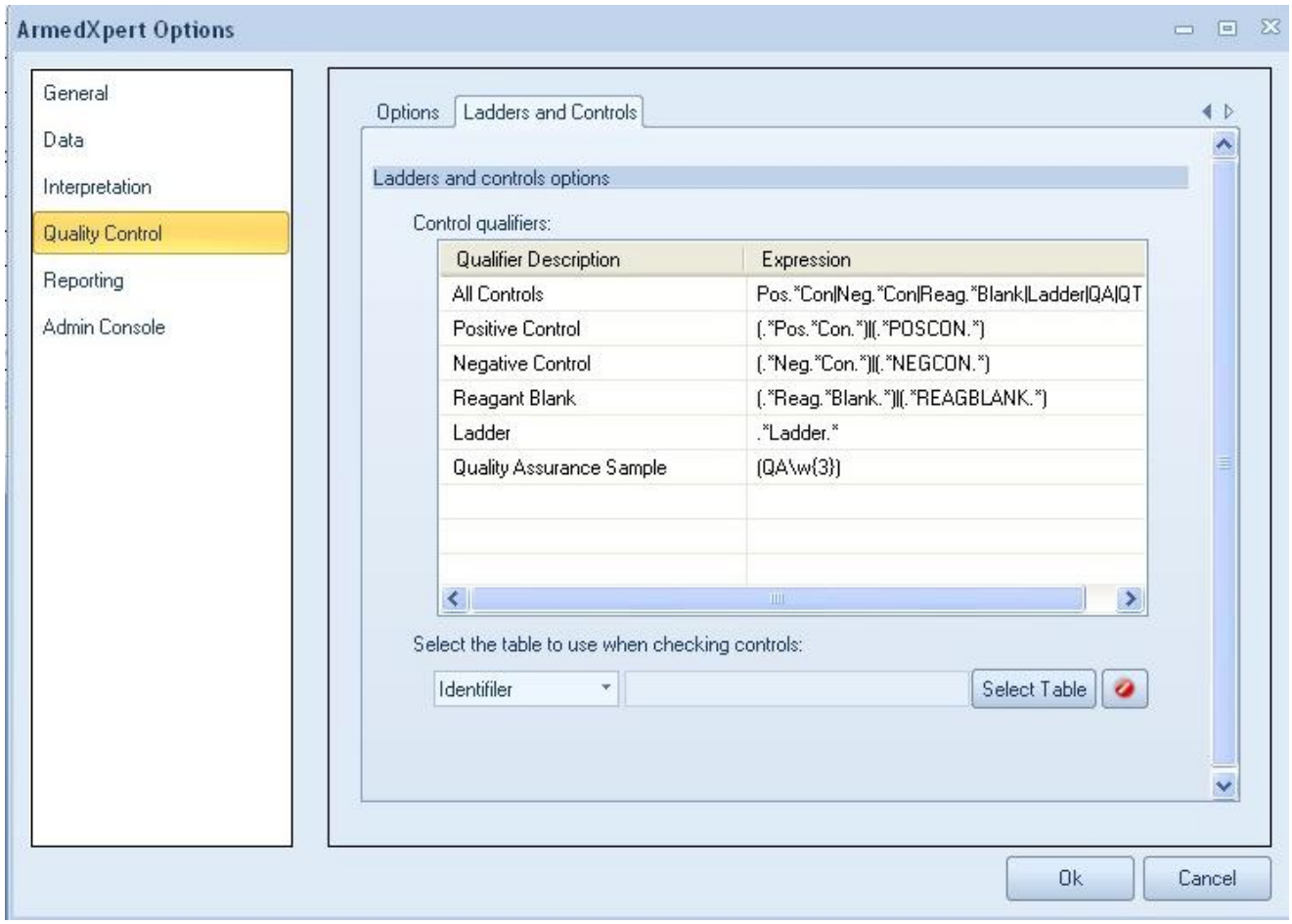
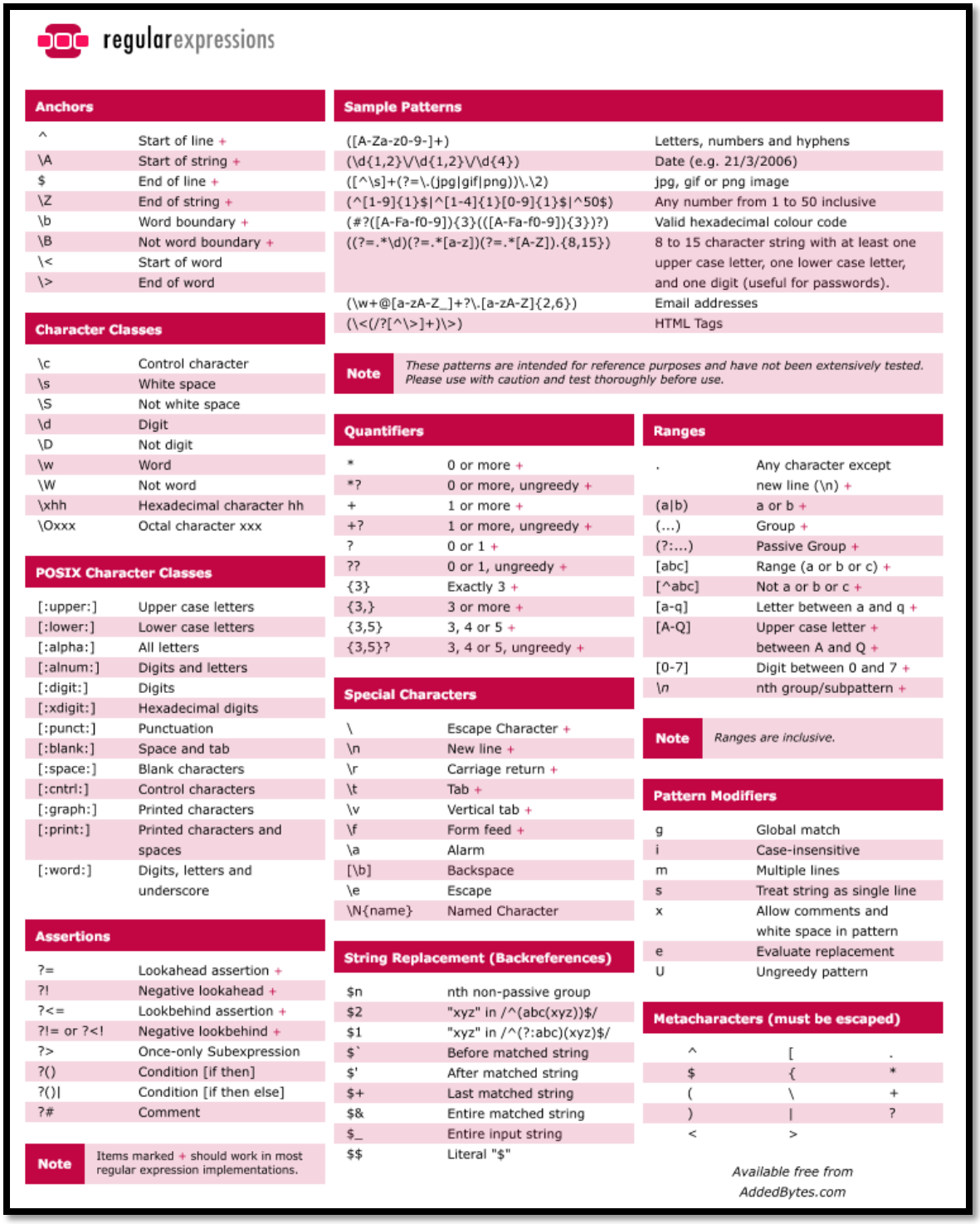


FIGURE 2.31 Ladder and Controls Subsection

On the next page is a list of regular expressions. These should only be changed if necessary. This is an advanced user form and should only be changed by those who understand regular expressions.



regularexpressions

Anchors

^	Start of line +
\A	Start of string +
$	End of line +
\Z	End of string +
\b	Word boundary +
\B	Not word boundary +
\<	Start of word
\>	End of word

Character Classes

\c	Control character
\s	White space
\S	Not white space
\d	Digit
\D	Not digit
\w	Word
\W	Not word
\xhh	Hexadecimal character hh
\Oxxx	Octal character xxx

POSIX Character Classes

[:upper:]	Upper case letters
[:lower:]	Lower case letters
[:alpha:]	All letters
[:alnum:]	Digits and letters
[:digit:]	Digits
[:xdigit:]	Hexadecimal digits
[:punct:]	Punctuation
[:blank:]	Space and tab
[:space:]	Blank characters
[:cntrl:]	Control characters
[:graph:]	Printed characters
[:print:]	Printed characters and spaces
[:word:]	Digits, letters and underscore

Assertions

?=	Lookahead assertion +
?!	Negative lookahead +
?<=	Lookbehind assertion +
?!= or ?<!	Negative lookbehind +
?>	Once-only Subexpression
?()	Condition [if then]
?()|	Condition [if then else]
?#	Comment

Note Items marked + should work in most regular expression implementations.

Sample Patterns

([A-Za-z0-9-]+)	Letters, numbers and hyphens
(\d{1,2}\/\d{1,2}\/\d{4})	Date (e.g. 21/3/2006)
([^\s]+(?=\.(jpg|gif|png))\.\2)	jpg, gif or png image
(^[1-9]{1}$\|^[1-4]{1}[0-9]{1}$|^50$)	Any number from 1 to 50 inclusive
(#?([A-Fa-f0-9]){3}(([A-Fa-f0-9]){3})?)	Valid hexadecimal colour code
((?=.*\d)(?=.*[a-z])(?=.*[A-Z]).{8,15})	8 to 15 character string with at least one upper case letter, one lower case letter, and one digit (useful for passwords).
(\w+@[a-zA-Z_]+?\.[a-zA-Z]{2,6})	Email addresses
(\<(/?[^\>]+)\>)	HTML Tags

Note *These patterns are intended for reference purposes and have not been extensively tested. Please use with caution and test thoroughly before use.*

Quantifiers

*	0 or more +
*?	0 or more, ungreedy +
+	1 or more +
+?	1 or more, ungreedy +
?	0 or 1 +
??	0 or 1, ungreedy +
{3}	Exactly 3 +
{3,}	3 or more +
{3,5}	3, 4 or 5 +
{3,5}?	3, 4 or 5, ungreedy +

Special Characters

\	Escape Character +
\n	New line +
\r	Carriage return +
\t	Tab +
\v	Vertical tab +
\f	Form feed +
\a	Alarm
[\b]	Backspace
\e	Escape
\N{name}	Named Character

String Replacement (Backreferences)

$n	nth non-passive group
$2	"xyz" in /^(abc(xyz))$/
$1	"xyz" in /^(?:abc)(xyz)$/
$`	Before matched string
$'	After matched string
$+	Last matched string
$&	Entire matched string
$_	Entire input string
$$	Literal "$"

Ranges

.	Any character except new line (\n) +
(a|b)	a or b +
(...)	Group +
(?:...)	Passive Group +
[abc]	Range (a or b or c) +
[^abc]	Not a or b or c +
[a-q]	Letter between a and q +
[A-Q]	Upper case letter + between A and Q +
[0-7]	Digit between 0 and 7 +
\n	nth group/subpattern +

Note *Ranges are inclusive.*

Pattern Modifiers

g	Global match
i	Case-insensitive
m	Multiple lines
s	Treat string as single line
x	Allow comments and white space in pattern
e	Evaluate replacement
U	Ungreedy pattern

Metacharacters (must be escaped)

^	[	.
$	{	*
(	\	+
)	|	?
<	>	

Available free from AddedBytes.com

FIGURE 2.32 List of Regular Expressions

The bottom section allows you to change the table to use when checking controls. If you would like to change the default table, first change the type of table you are uploading from the drop down list to the left of the select table box. Then click on the "Select Table button."

FIGURE 2.33 Bottom of the Ladder and controls option Window

Click on the appropriate table on the left and click on the > button. The table will move to the box on the right. Click on the "Load" button to load the table.

Note: The table has to be committed to the database to appear in this window. If you have not committed the table you would like to use, go to the instruction in chapter 4 of this manual for instructions on how to Commit Samples to Data Source.

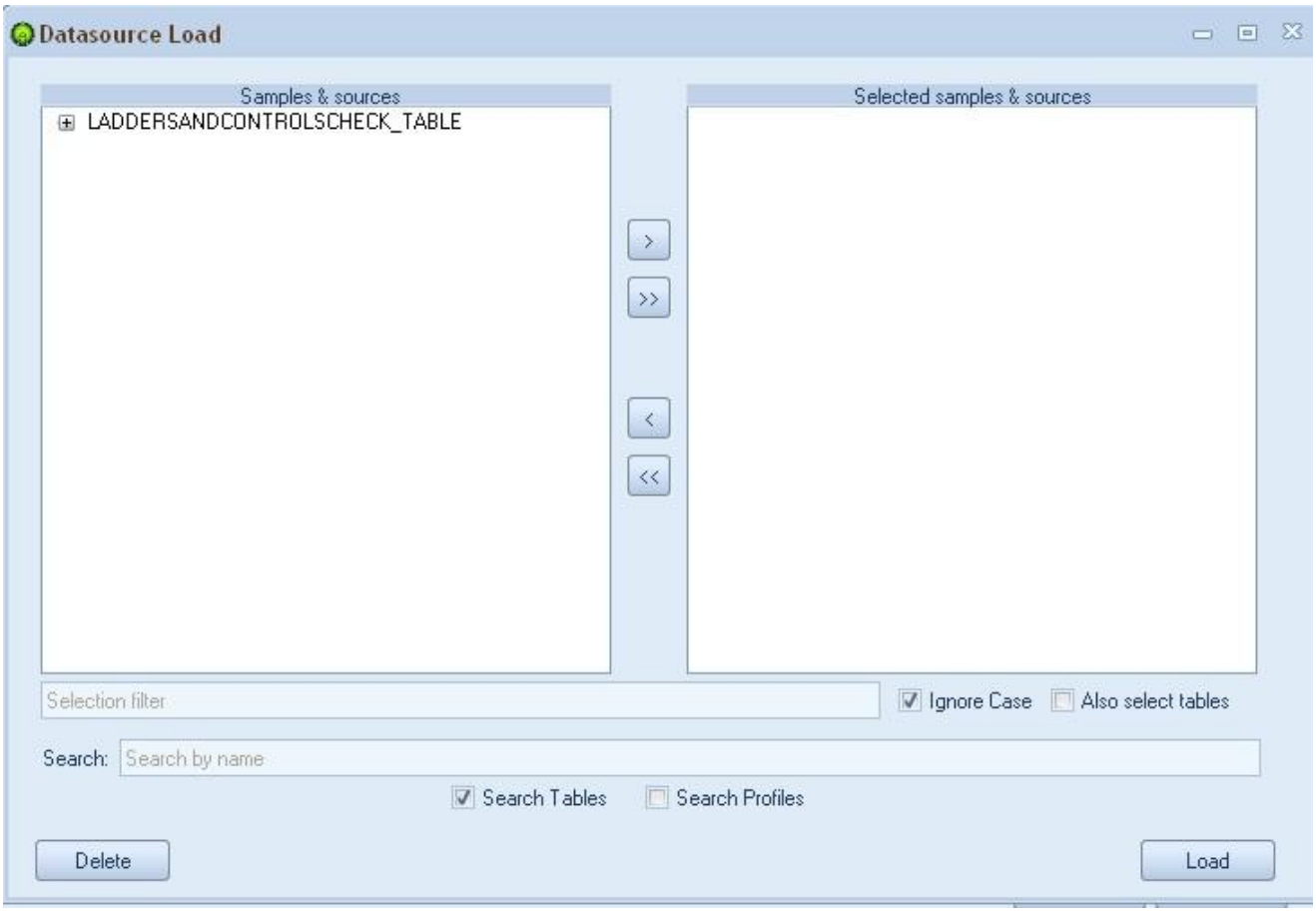


FIGURE 2.34 New Table Selection Window

The fifth section is **Reporting**. This section has three subsections: Reporting Options, CODIS, and CMF Attributes.

The first subsection, **Reporting Option** allows you to set ArmedXpert to automatically check all samples against the loaded selected profiles as soon as you import the table into ArmedXpert. When checked, ArmedXpert will generate a report when a table is imported into ArmedXpert. It lists all the samples included on the imported table and indicate which ones are at equal to or above the minimum number set for exact and included matches compared to the selected profile types. **Note:** If this option is not checked, you can manually check a staff profile against any sample table in ArmedXpert. The sample comparison reporting directions can be found in Chapter 8.

To enable automatic table and staff profile comparison, check the box to the left of "Compare table to profile types selected below upon opening." Then, enter the minimum number of total matches, the minimum number of exact matches, and the minimum number of included matches that you would like to show on the report. To show all included, set the minimum number of included to -1 as shown below. In the Profile Type box, add a checkmark to all the profile types you would like the tables to be compared against. To disable this reporting option, click on the box with the check mark and it will be removed.

Next to the Profile Type box, are three options that can be used to customize what appears on your report. If the "Only compare other samples" option is checked, the profile will not be compared against controls and ladders. The "List unmatched samples" option, will list all samples whether they are a match or not. If not checked, only matched samples will appear on the report. The "Create match/compare report" option will show the actual match and compare reports per sample on separate tabs on your report if checked.

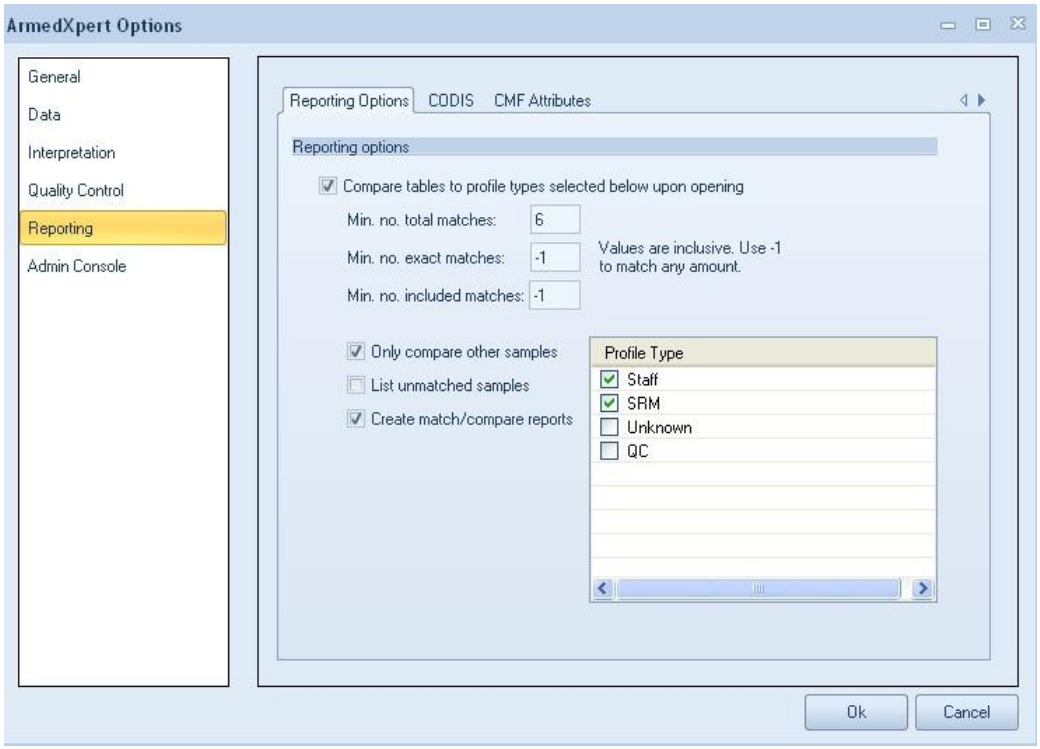


FIGURE 2.35 Reporting Options window.

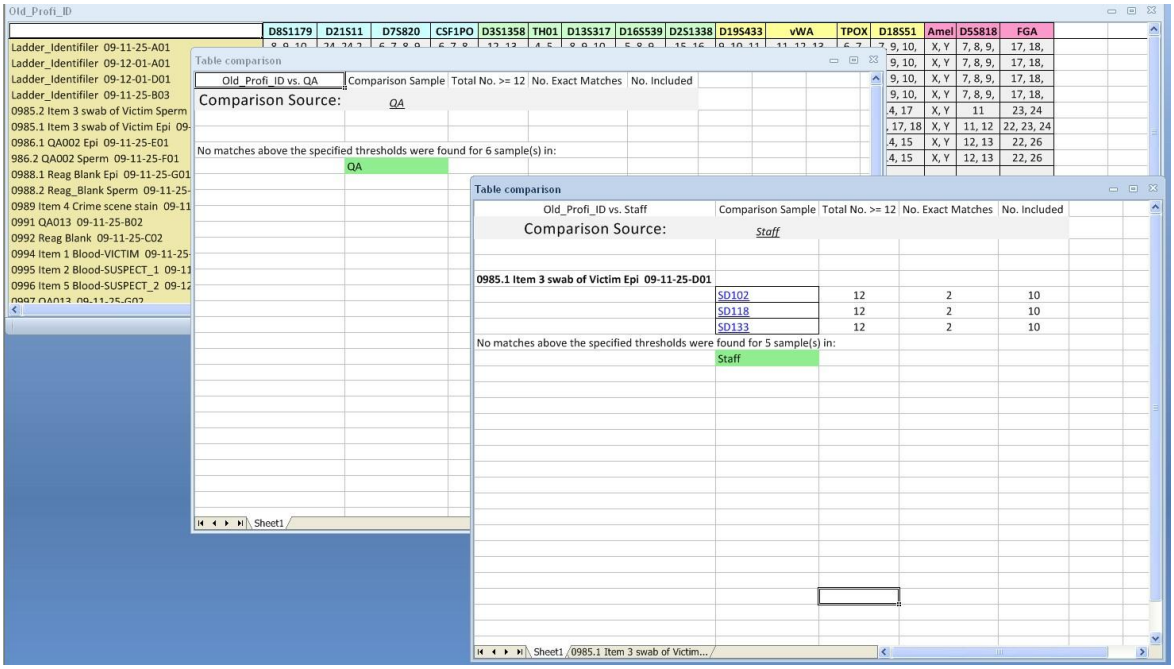

Old_Profi_ID
D8S1179 D21S11 D7S820 CSF1PO D3S1358 TH01 D13S317 D16S539 D2S1338 D19S433 vWA TPOX D18S51 Amel D5S818 FGA
Ladder_Identifiler 09-11-25-A01
Ladder_Identifiler 09-12-01-A01
Ladder_Identifiler 09-12-01-D01
Ladder_Identifiler 09-11-25-B03
0985.2 Item 3 swab of Victim Sperm
0985.1 Item 3 swab of Victim Epi 09-
0986.1 QA002 Epi 09-11-25-E01
986.2 QA002 Sperm 09-11-25-F01
0988.1 Reag Blank Epi 09-11-25-G01
0988.2 Reag_Blank Sperm 09-11-25-
0989 Item 4 Crime scene stain 09-11
0991 QA013 09-11-25-B02
0992 Reag Blank 09-11-25-C02
0994 Item 1 Blood-VICTIM 09-11-25-
0995 Item 2 Blood-SUSPECT_1 09-11
0996 Item 5 Blood-SUSPECT_2 09-12
Table comparison
Old_Profi_ID vs. QA
Comparison Sample
Total No. >= 12
No. Exact Matches
No. Included
Comparison Source:
QA
No matches above the specified thresholds were found for 6 sample(s) in:
QA
Sheet1
Table comparison
Old_Profi_ID vs. Staff
Comparison Sample
Total No. >= 12
No. Exact Matches
No. Included
Comparison Source:
Staff
0985.1 Item 3 swab of Victim Epi 09-11-25-D01
SD102 12 2 10
SD118 12 2 10
SD133 12 2 10
No matches above the specified thresholds were found for 5 sample(s) in:
Staff
Sheet1
0985.1 Item 3 swab of Victim...

FIGURE 2.36 Sample of the reports that will open when you load a Sample table based on options chosen.

The second subsection, **CODIS** allows you to add defaults to the CMF Report in ArmedXpert. All data filled in here will be displayed with you open the CMF report. In the top portion, enter in the default information for your Lab.

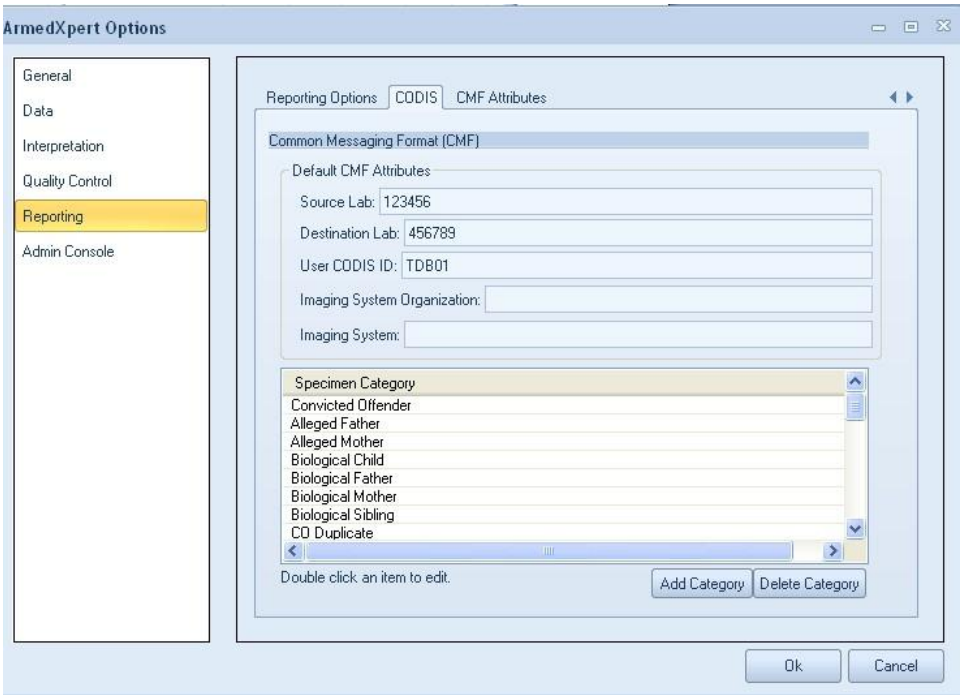


FIGURE 2.37 CODIS Option Window

In the bottom portion, the Specimen Categories are displayed. There is several default ones already entered into ArmedXpert. You can add additional categories by clicking on the "Add Category" button and entering in the appropriate category on the next available line. You can also delete any category, by clicking on it and then clicking on the "Delete Category" button. You can edit any of the categories by double clicking on it and then typing in the edit.

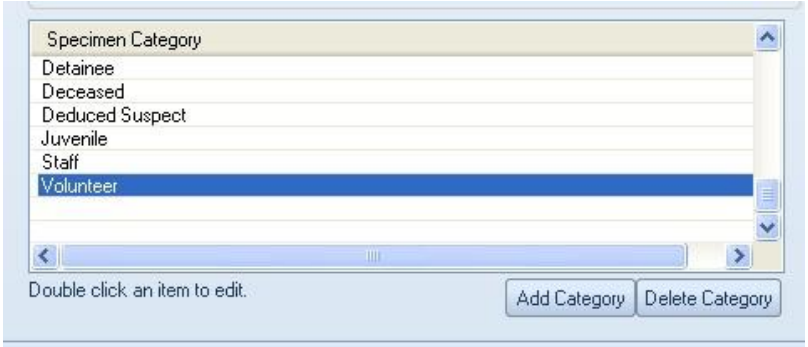


FIGURE 2.38 CODIS Specimen Category Section

The third subsection, **CMF Attributes** allows you to add to enter CMF Attributes used in the CMF report in ArmedXpert. All data filled in here will be displayed with you open the CMF report. You can change the order of all the attributes by double clicking in the cell containing the number order and then clicking in a new number. The Attributes will be reordered by the change. You can also add attributes by clicking on the "Add Attribute" button and entering in the appropriate attribute on the next available line. You can also delete any attribute, by clicking on it and then clicking on the "Delete Attribute" button. You can edit any of the attributes by double clicking on it and then typing in the edit. **Note**: Any attribute with a * in front of it, cannot be deleted or edited. It is a required attribute.

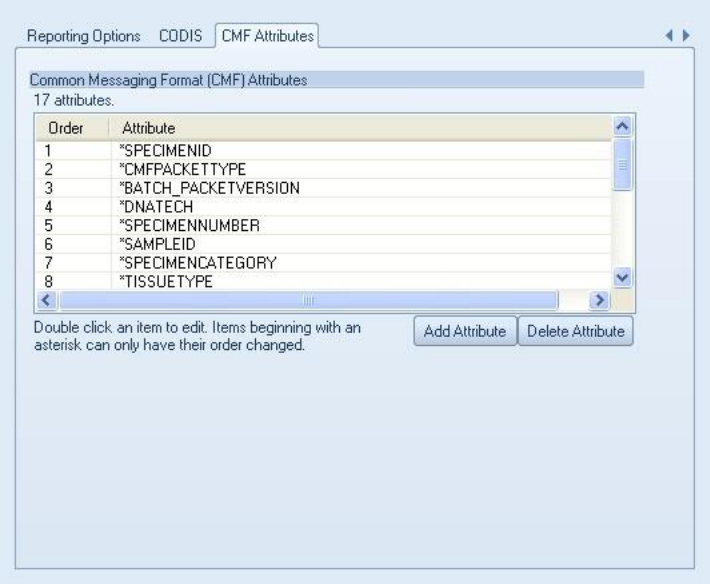


FIGURE 2.39 CMF Attributes Section

The final section is **Admin Console**. This section will only be available if you have administration capabilities. It has two tabs, **Users** and **Database**.

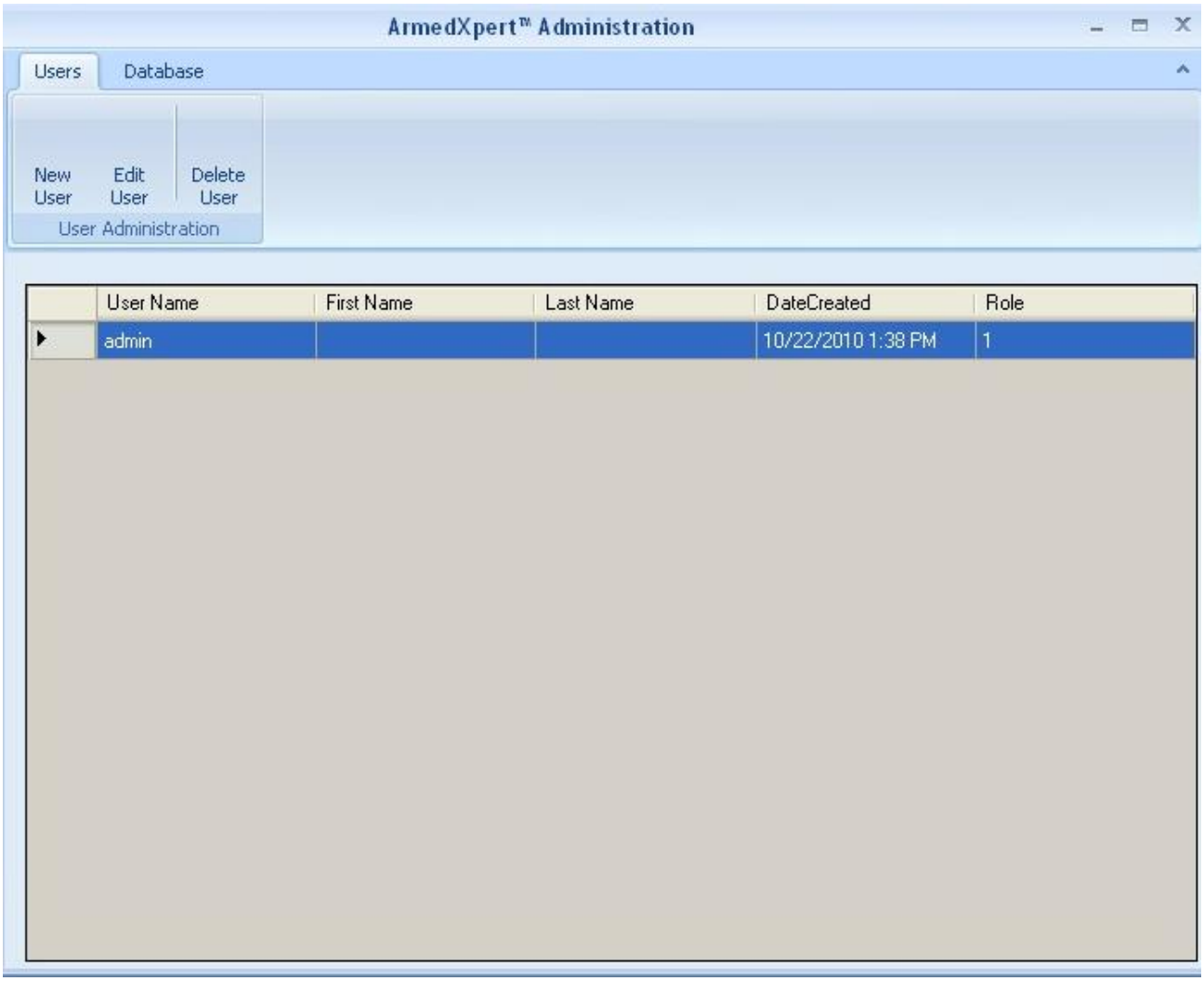


FIGURE 2.40 ArmedXpert Administration User Window

The first tab, **Users** allows you to enter a new user, edit a user, and delete a user. To Enter a New User, click on the "**New User**" command. The New User box will open. Type in the appropriate information. Only the User Name and Role are required to be filled in. There is a drop down list for the Role options. Click on the arrow and select the appropriate role. Click on "Ok" once finished.

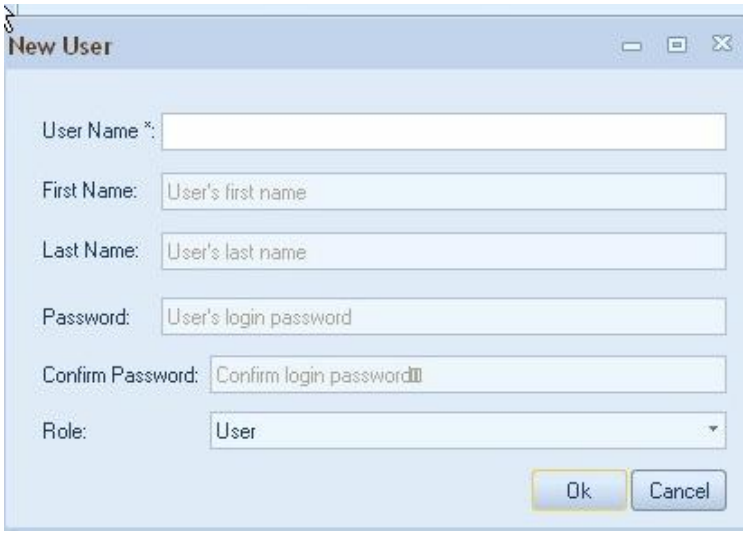


FIGURE 2.41 New User window

To Edit a User, click on the user name you would like to edit. Then click on the "**Edit User**" command. The user information will be filled in. Change or add any information that is appropriate for that user. To change a password, enter the current login password and click on "Reset password." Type in New Password and confirm it in the next box. Click on "Ok."

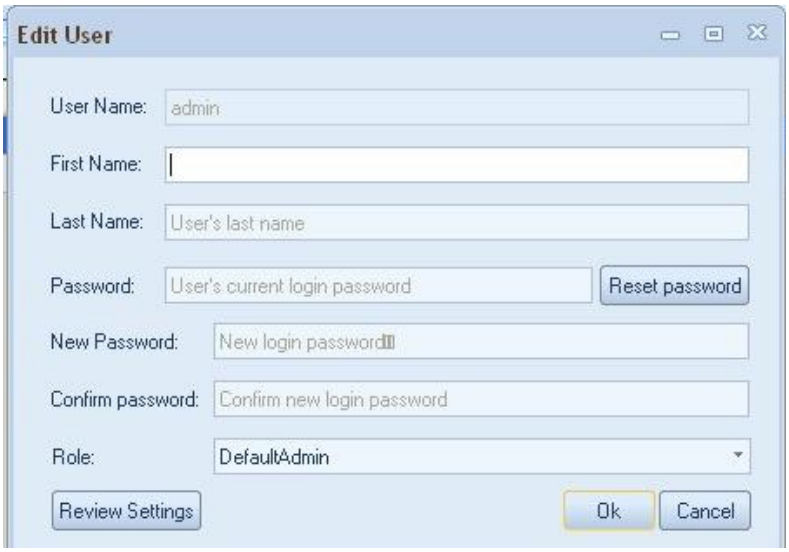


FIGURE 2.42 Edit User window

To delete a user, click on the user name you would like to delete. Then click on the "**Delete User**" command. The User name will be deleted.

The second tab is **Database**. There are two available feature: Run SQL Updater and Reset QA. The Run SQL Updater feature will update your SQL database to your new upgraded ArmedXpert version. The Reset QA feature will reassociate the profile type named "QA" with quality control checks.

When you upgrade ArmedXpert, it is may be necessary to run the SQL updater. Click on "**Run SQL updater**" command. This will update SQL.

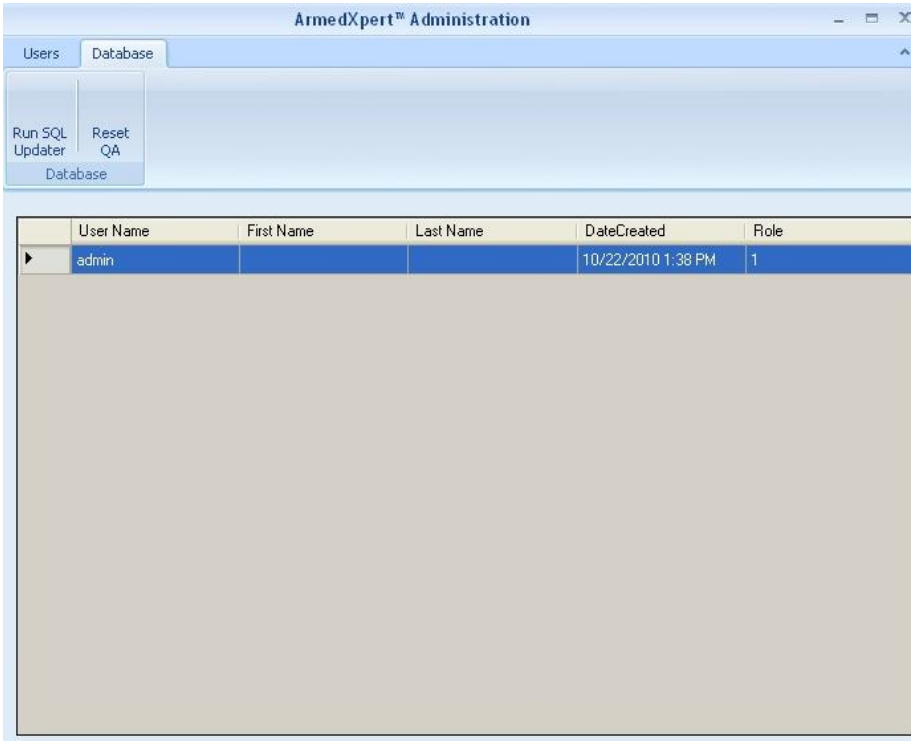


FIGURE 2.43 Database Window

When you click on the "Reset QA" button, will reset the QA profile. This feature should only be used if there is a problem with your QA profile. The QA Profile will have to be manually deleted before executing this command and then recommitted afterwards. To delete a profile, follow the instructions found in the Data chapter of the manual. A warning message will appear after you click on the "Rest QA" button. Click "OK" button to complete the action.

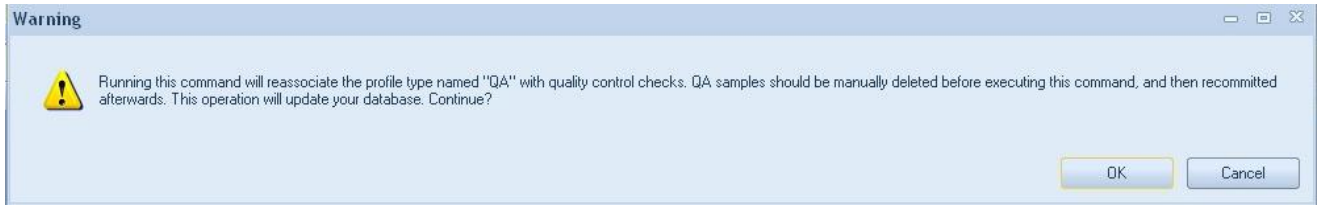

Warning
Running this command will reassociate the profile type named "QA" with quality control checks. QA samples should be manually deleted before executing this command, and then recommitted afterwards. This operation will update your database. Continue?
OK
Cancel

FIGURE 2.44 Warning Message Window

Import

The **Import** command allows you to load a Tab-delimited table files such as GMIDIdentifiler, GMIDPowerplex 16, Profiler Plus, and others. It also allows you to load other table types such as previously exported page data, Osiris Analysis Report, and CODIS Index file. Finally, you can load other files such as Plugins, previously exported frequency analysis calculations, previously exported mixture interpretations, and OSIRIS Plot files.

Click on "Import' and the list below will appear. Select the appropriate type of file you wish to import. Once in ArmedXpert, you can export the sample tables as Page Data. You can then import it back into ArmedXpert using the Page Data option. The method is designed to give users the ability to return to the original files or open 'working copies' stored in the "Page Data" format.

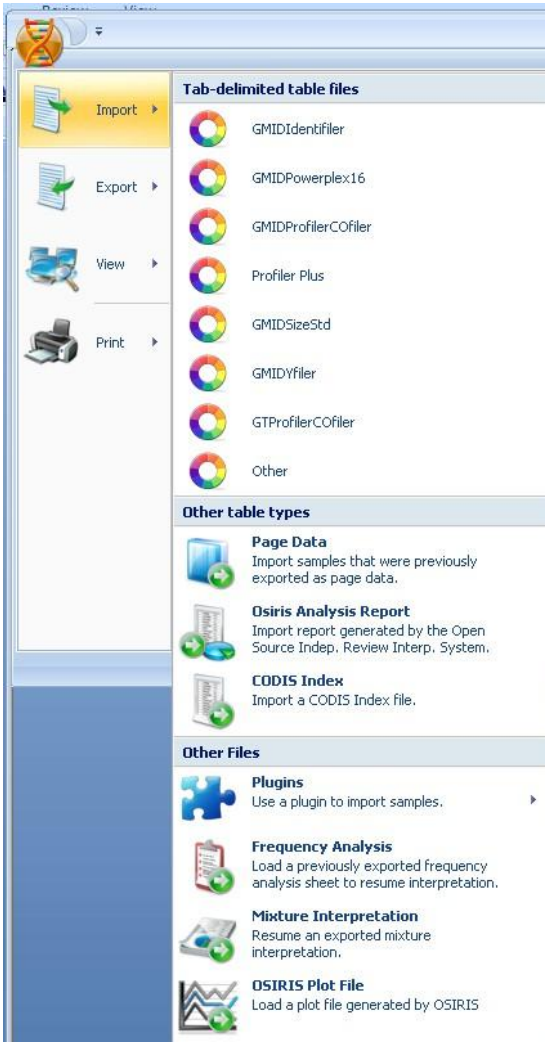


FIGURE 2.45 Import Menu

Once you select the type of data you are importing, the open window appears. Select from the list the file you wish to import. Then click the "Open" button. If the file is located in another folder, change the folder by clicking on the arrow next to the "Look in" box. The table files will then open in ArmedXpert as shown in Figure 2.46 below. The file name will appear on the upper left hand corner of the page.

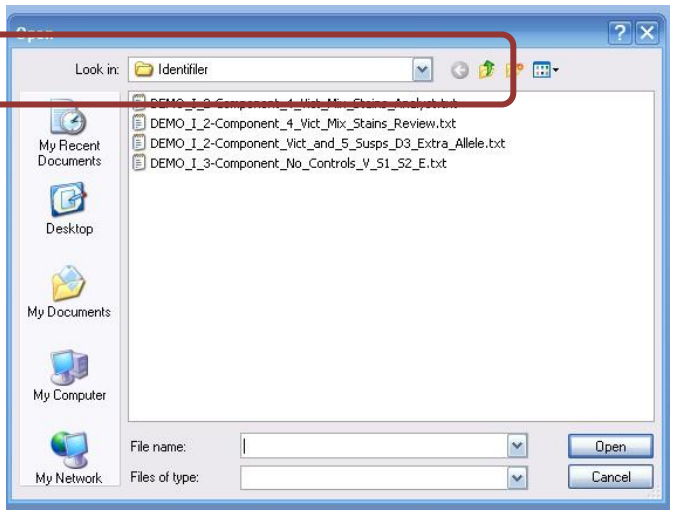


FIGURE 2.46 Open Window

DEMO_I_2-Component_4_Vict_Mix_Stains_Analyst.txt

	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
Ladder Identifiler 06-06-20-A01	8, 9, 10,	24, 25,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
Ladder Identifiler 06-06-20-A03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
Ladder Identifiler 06-06-20-F03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11, 11	14, 17	X, Y	9, 12	22.2, 25
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0161.1 QA003F1 06-06-20-H01	13, 14	28, 31.1	11, 12	10, 10	14, 18	6, 6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12, 12	X, Y	12, 13	22, 26
XX0162.1 Reag BlankF1 06-06-20-B02																22, 22
XX0162.2 Reag BlankF2 06-06-20-C02																
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0165 QA004 QA 06-06-20-E02	12, 12	29, 31	9, 12	9, 10	14, 14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 18	X, Y	11, 13	19, 23
XX0166 Reag Blank 06-06-20-F02																
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10, 10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X, X	12, 12	22, 24
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11, 11	14, 17	X, Y	9, 12	22.2, 25
XX0169 QA026 QA 06-06-20-B03	12, 15	30, 30	11, 12	11, 11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15, 18	8, 8	13, 13	X, Y	11, 11	20, 20
XX0170 Reag Blank 06-06-20-C03																
XX0171 Pos Con 06-06-20-D03	13, 13	30, 30	10, 11.1	10, 12	14, 15	8, 9.3	11, 11	11, 12	19, 23	14, 15	17, 18	8, 8	15, 19		11, 11	23, 24
XX0172 Neg Con 06-06-20-E03														X, X		

FIGURE 2.47 File opened in ArmedXpert

Click on Frequency analysis to import in a previously exported Frequency analysis calculation page. All exported Frequency analysis will have an .axf extension. The Frequency analysis calculation page will import in with all the information that was exported out. You can now continue using the Frequency analysis calculations page.

Click on Mixture Interpretation to import in a previously exported Mixture Interpretation. All exported Mixture Interpretations will have an .axm extension. The Mixture Interpretation window will open along with a

copy of the sample table that contains the sample that the mixture interpretation window was using. All calls made before the Mixture Interpretation was exported, will appear along with the settings used, and references applied. You can now continue using the Mixture Interpretation tool.

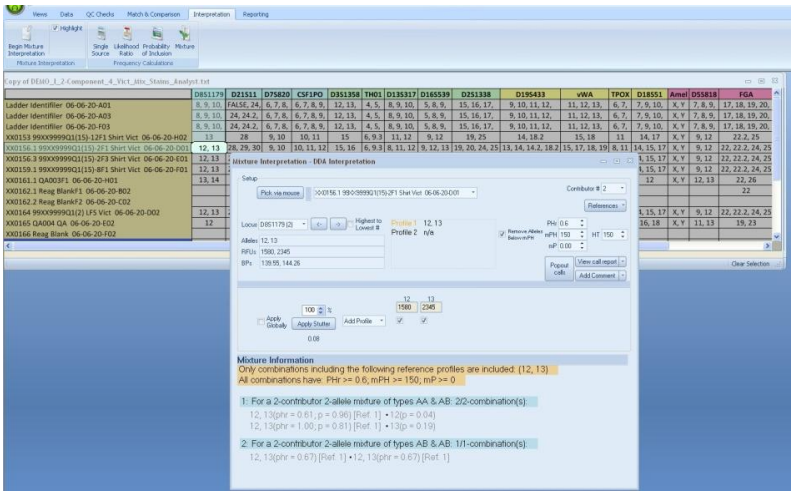


FIGURE 2.48 Mixture Interpretation Imported

Click on OSIRIS Plot file to import in an OSIRIS plot file. When you select this option, the OSIRIS Plot window will open as shown below. Click the "Add" button to add the OSIRIS .plt files. Add them in the order you want them to appear in the final report. Double click on a listed .plt file to edit the name. Click on any of the OSIRIS .plt files listed and click the "Remove" button to remove them from the list. On the bottom of the window are the available options. Select the options that are preferred. Once finished with adding, click the "Plot" button.

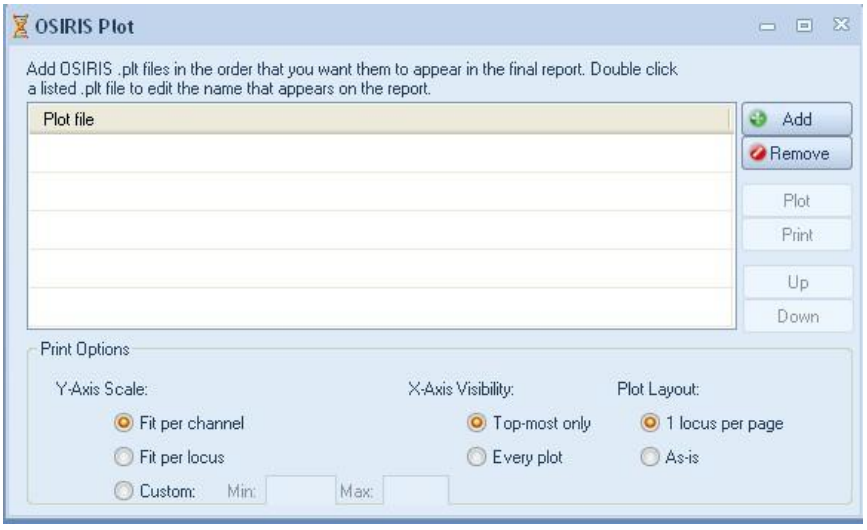


FIGURE 2.49 OSIRIS Plot Window

Export

The **Export** command allows you to export your Page Data, Frequency analysis, or Mixture interpretation if you wish to save it and resume it later. You also have an option to save any page in a workbook friendly format, so that you can open it in **Excel** or as an **Image**. Finally, you have the option to export a sample using a user created **plugin**. When you click on "Export" the options below will appear. They will be shown in color once you have selected a table on the screen. However, if you do not they will be shown gray as seen in below.

To save a page data, click on **Page Data**. A "Save As" Window will appear. You can name the page anything you wish. The default folder to save a page data is in the "Page Data" folder located in ArmedXpert Folder. However, you can change the folder to save it to. Once you have chosen the name and folder, click the "Save" button.

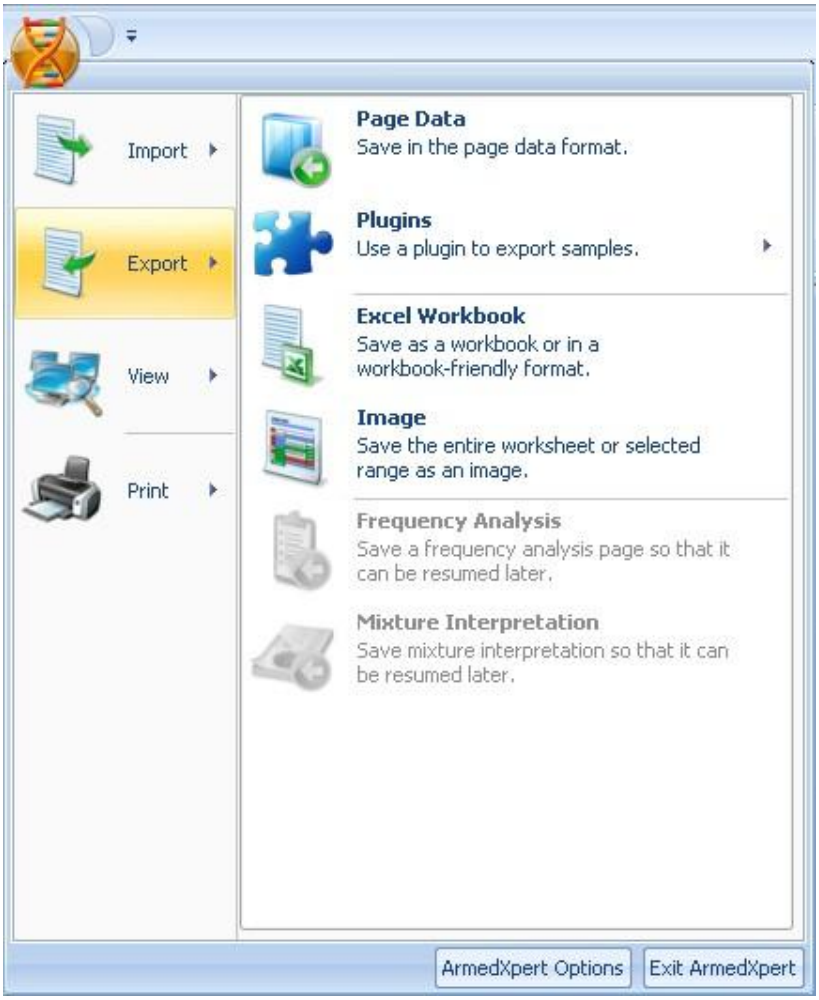


FIGURE 2.50 Export Menu

To save a Frequency Analysis, so that it can be resumed later in ArmedXpert, click on **Frequency Analysis**. The "Save As" window will appear. You can change the file name to whatever name you would like and Save it in whichever folder you would like. Click "Save" once you have the file name and folder chosen. You also have an option to save a frequency analysis as an excel workbook by clicking on Excel Workbook when you have the Frequency page open. You can then open the Frequency analysis in Excel. Finally, you can save the report as an image, by clicking on Image.

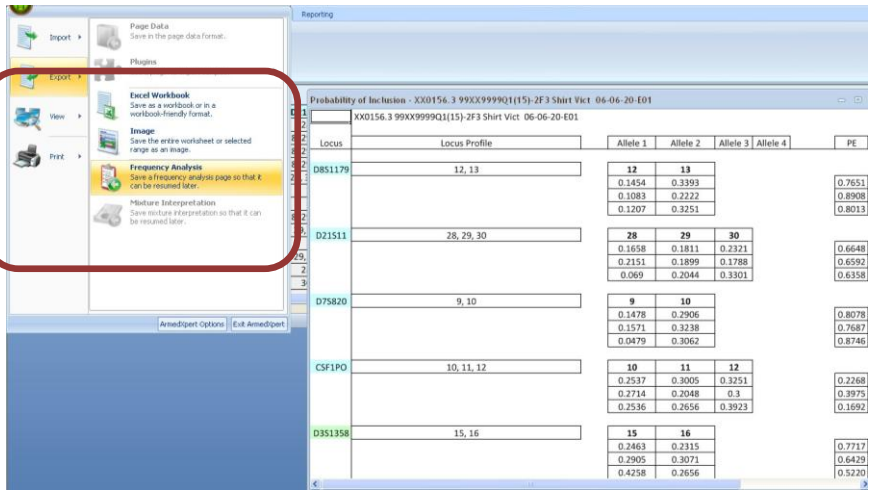


FIGURE 2.51 Frequency Analysis page, with Export Menu.

To save a Mixture Interpretation page, so that it can be resumed later in ArmedXpert, click on **Mixture Interpretation**. The "Save As" Window will appear. You can change file name to whatever name you would like and Save it in whichever folder you would like. Click "Save" once you have the file name and folder chosen

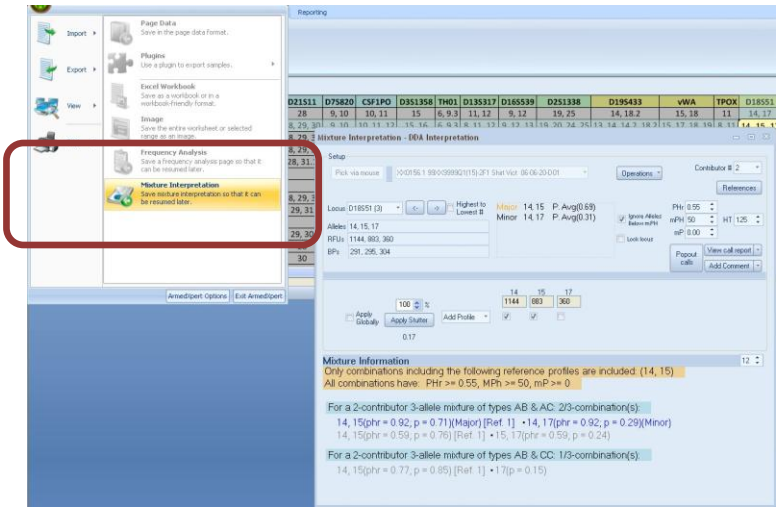


FIGURE 2.52 Mixture Interpretation page, with Export Menu.

View

Click on **View** to view your stored profiles. To initially add the profiles, see the instructions under the Data Source section in chapter 4. Click on Profiles and the "Chose value" window will open. Select the type of profile you would like to view. Click the "Ok" button. The profile type table will open.

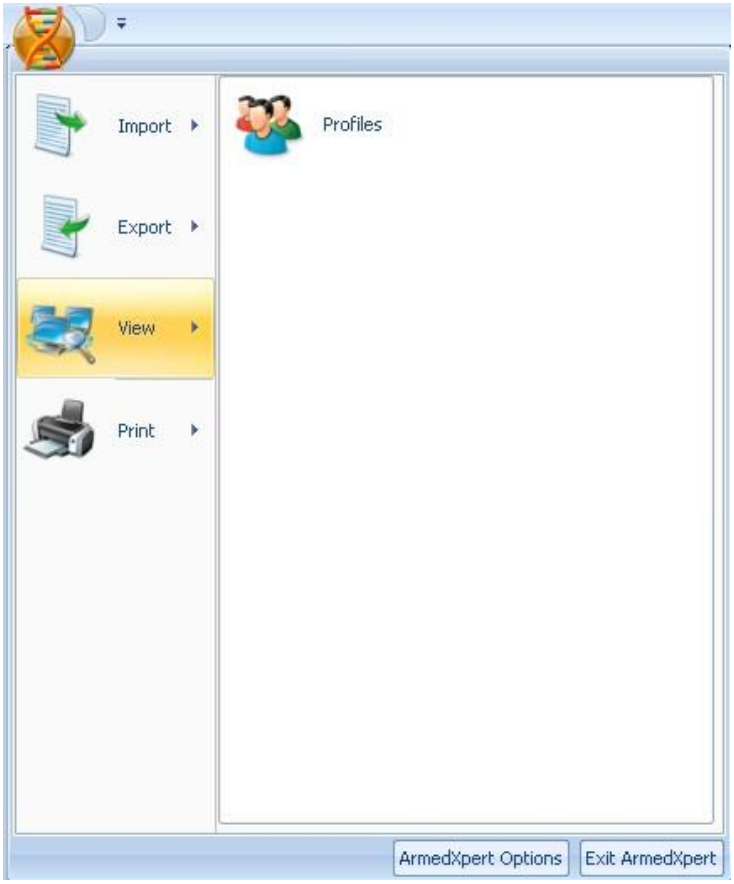


FIGURE 2.53 View Menu

FIGURE 2.54 Chose value Window

Print

To print a page, click on the **print** option. The appropriate print window will open.

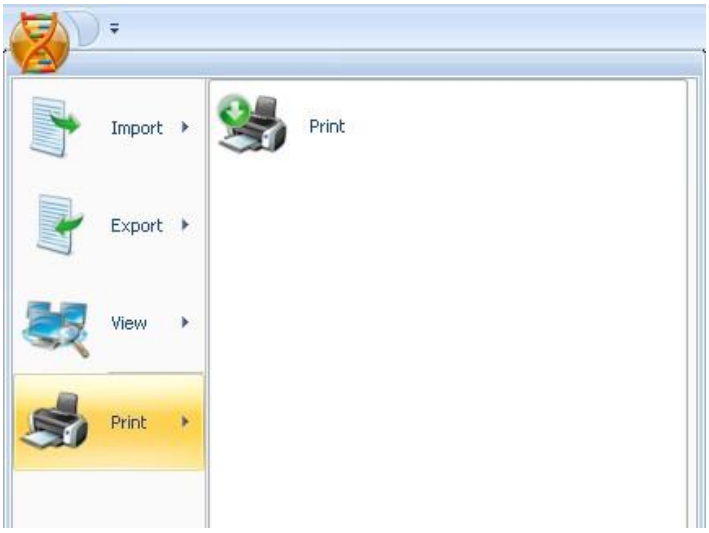


FIGURE 2.55 Print Menu

In the print window, you can change between orientations, choose what to print, change sizes, and enter headers. Make all appropriate selections and enter any necessary headers.

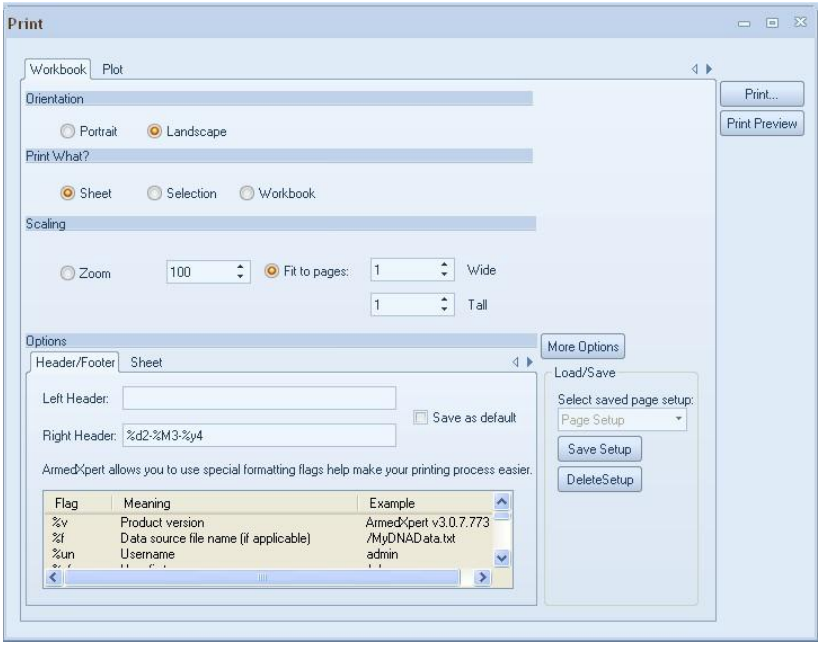


FIGURE 2.56 Print Options

The print window allows you to make additional changes as well as saving setups. To make additional changes to the way the page is printed click on the "More Option" button. If you would like to save all the print setups, click on the "Save Setup" button once all appropriate settings have been completed. A "Give the setup a name" window will open. Type in a user-defined name. Then click the "Ok" button. When you want to use a saved set up, select from the drop down list. All saved changes, will appear.

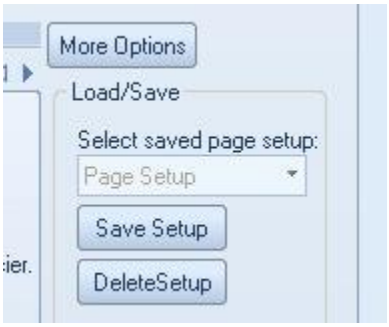


FIGURE 2.57 Print More Options

Once you have made all print setups, click "Print:" or "Print Preview."

FIGURE 2.58 Print Options

If you have an OSIRIS Plot file open, the Plot tab will open instead for the Workbook tab. Choose the appropriate orientation and fit option. Once you have made all selections, click "Print:" or "Print Preview."

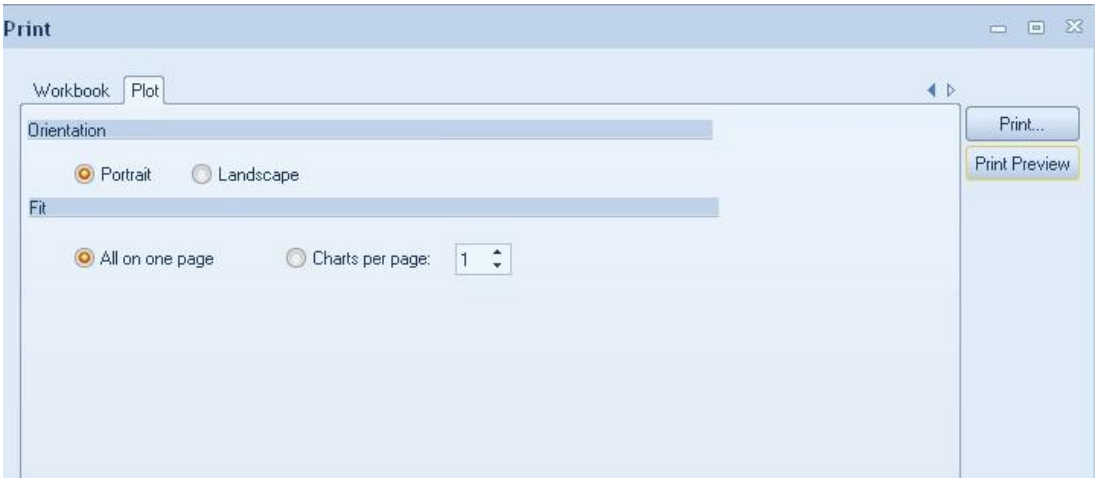


FIGURE 2.59 Plot Options

Chapter 3

Tab One - Views

The first tab in ArmedXpert is Views. There are five main sections of the View tab: **View**, **Fit**, **Zoom**, **Show/Hide, and Windows**. This tab's commands allow you to choose how the data appears on your screen. It also has an organize tool which allows you to choose which window you would like to view.

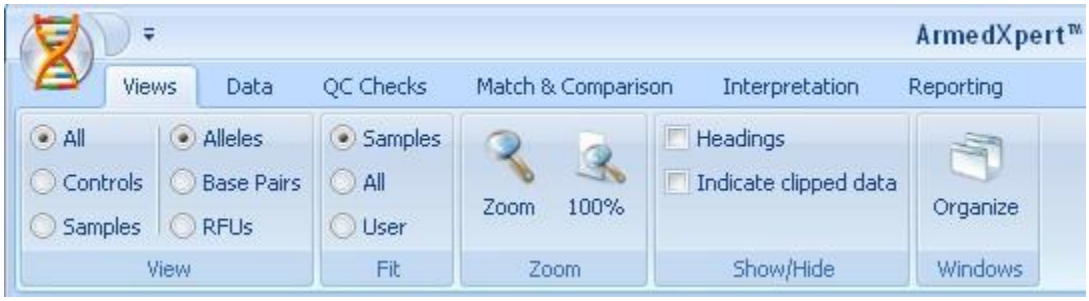
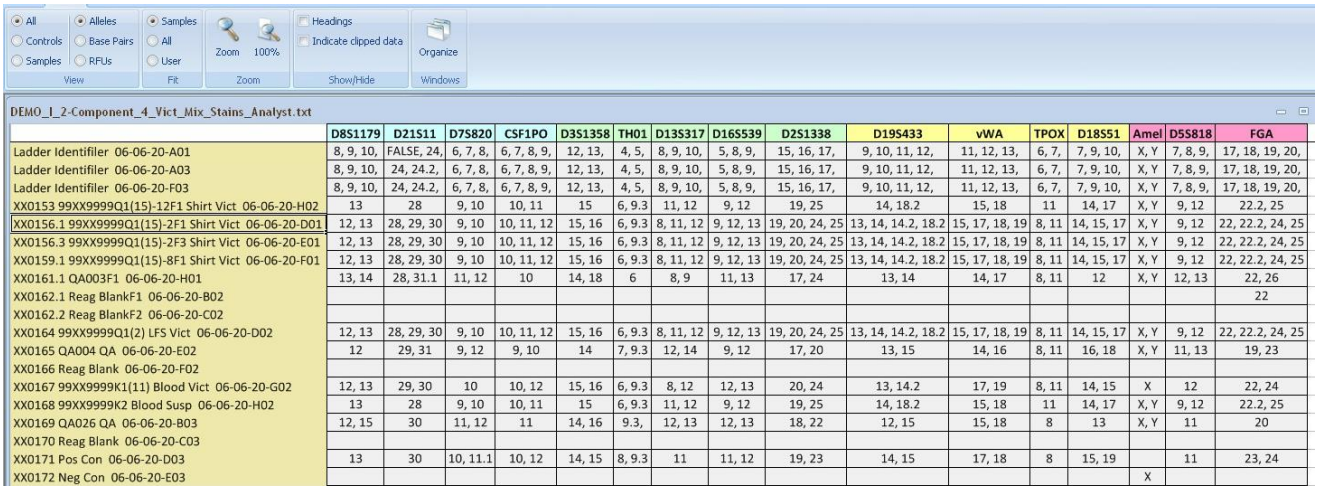


FIGURE 3.1 Views Tab

View

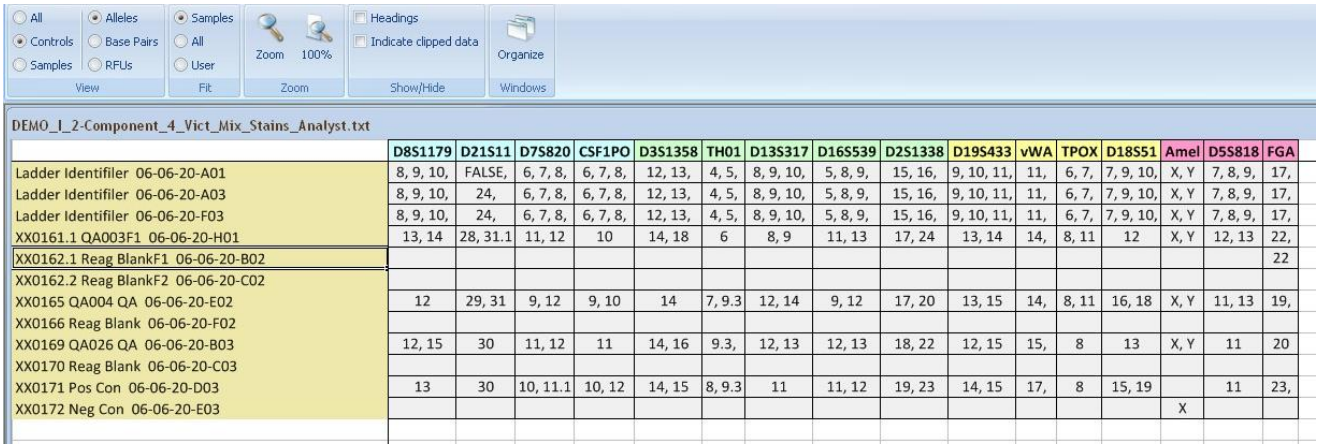
The **View** section gives you the option of what type of data is displayed. The left side of the view section allows you to choose between viewing Controls, Samples, or All (Controls and Samples). The right side allows you to choose whether Alleles, Base Pairs, or RFU's are shown. Click on the circle to the left of the desired choice. Examples of all different view combinations are shown below.

FIGURE 3.2 View Section



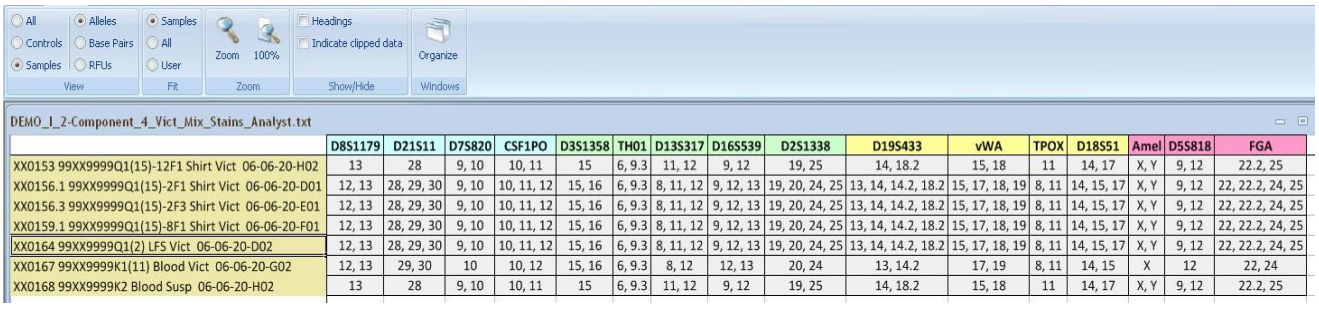
	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
Ladder Identifiler 06-06-20-A01	8, 9, 10,	FALSE, 24,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
Ladder Identifiler 06-06-20-A03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
Ladder Identifiler 06-06-20-F03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0161.1 QA003F1 06-06-20-H01	13, 14	28, 31.1	11, 12	10	14, 18	6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12	X, Y	12, 13	22, 26
XX0162.1 Reag BlankF1 06-06-20-B02																22
XX0162.2 Reag BlankF2 06-06-20-C02																
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0165 QA004 QA 06-06-20-E02	12	29, 31	9, 12	9, 10	14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 18	X, Y	11, 13	19, 23
XX0166 Reag Blank 06-06-20-F02																
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X	12	22, 24
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0169 QA026 QA 06-06-20-B03	12, 15	30	11, 12	11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15, 18	8	13	X, Y	11	20
XX0170 Reag Blank 06-06-20-C03																
XX0171 Pos Con 06-06-20-D03	13	30	10, 11.1	10, 12	14, 15	8, 9.3	11	11, 12	19, 23	14, 15	17, 18	8	15, 19		11	23, 24
XX0172 Neg Con 06-06-20-E03														X		

FIGURE 3.3 View All Samples & Controls by Allele



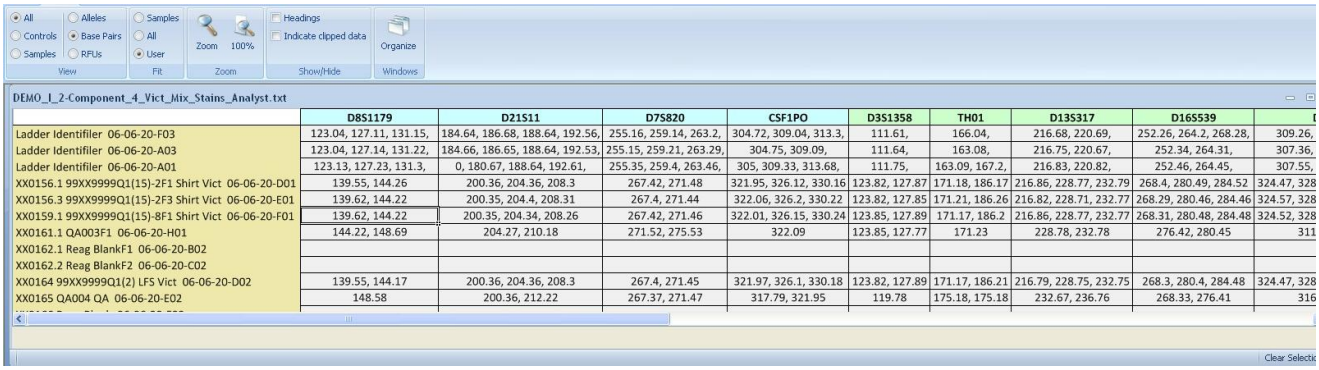
	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
Ladder Identifiler 06-06-20-A01	8, 9, 10,	FALSE,	6, 7, 8,	6, 7, 8,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16,	9, 10, 11,	11,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17,
Ladder Identifiler 06-06-20-A03	8, 9, 10,	24,	6, 7, 8,	6, 7, 8,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16,	9, 10, 11,	11,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17,
Ladder Identifiler 06-06-20-F03	8, 9, 10,	24,	6, 7, 8,	6, 7, 8,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16,	9, 10, 11,	11,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17,
XX0161.1 QA003F1 06-06-20-H01	13, 14	28, 31.1	11, 12	10	14, 18	6	8, 9	11, 13	17, 24	13, 14	14,	8, 11	12	X, Y	12, 13	22,
XX0162.1 Reag BlankF1 06-06-20-B02																22
XX0162.2 Reag BlankF2 06-06-20-C02																
XX0165 QA004 QA 06-06-20-E02	12	29, 31	9, 12	9, 10	14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14,	8, 11	16, 18	X, Y	11, 13	19,
XX0166 Reag Blank 06-06-20-F02																
XX0169 QA026 QA 06-06-20-B03	12, 15	30	11, 12	11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15,	8	13	X, Y	11	20
XX0170 Reag Blank 06-06-20-C03																
XX0171 Pos Con 06-06-20-D03	13	30	10, 11.1	10, 12	14, 15	8, 9.3	11	11, 12	19, 23	14, 15	17,	8	15, 19		11	23,
XX0172 Neg Con 06-06-20-E03														X		

FIGURE 3.4 View All Controls by Allele



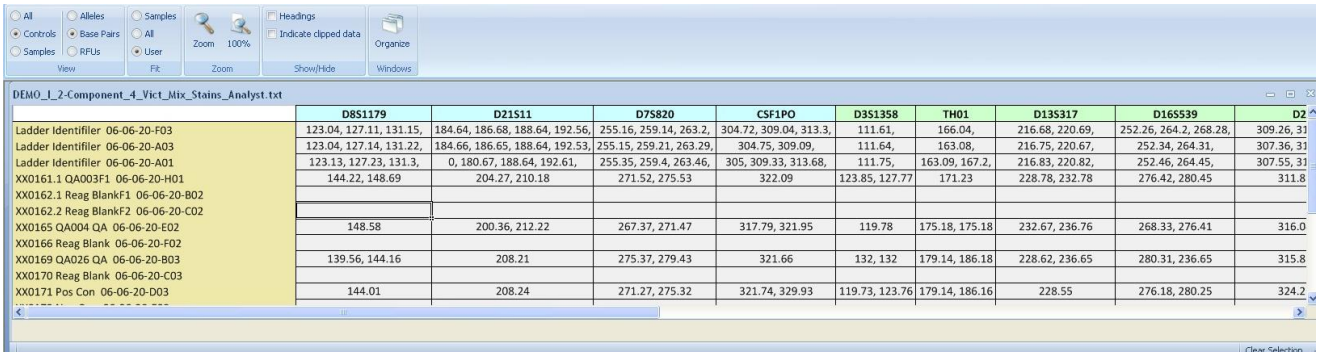
	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X	12	22, 24
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25

FIGURE 3.5 View All Samples by Allele



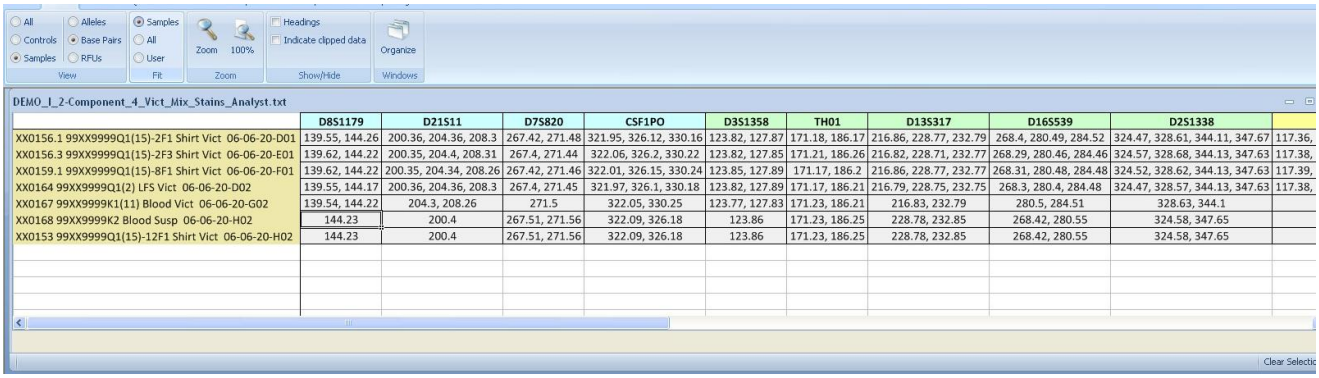
	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	
Ladder Identifiler 06-06-20-F03	123.04, 127.11, 131.15,	184.64, 186.68, 188.64, 192.56,	255.16, 259.14, 263.2,	304.72, 309.04, 313.3,	111.61,	166.04,	216.68, 220.69,	252.26, 264.2, 268.28,	309.26,
Ladder Identifiler 06-06-20-A03	123.04, 127.14, 131.22,	184.66, 186.65, 188.64, 192.53,	255.15, 259.21, 263.29,	304.75, 309.09,	111.64,	163.08,	216.75, 220.67,	252.34, 264.31,	307.36,
Ladder Identifiler 06-06-20-A01	123.13, 127.23, 131.3,	0, 180.67, 188.64, 192.61,	255.35, 259.4, 263.46,	305, 309.33, 313.68,	111.75,	163.09, 167.2,	216.83, 220.82,	252.46, 264.45,	307.55,
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	139.55, 144.26	200.36, 204.36, 208.3	267.42, 271.48	321.95, 326.12, 330.16	123.82, 127.87	171.18, 186.17	216.86, 228.77, 232.79	268.4, 280.49, 284.52	324.47, 328
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	139.62, 144.22	200.35, 204.4, 208.31	267.4, 271.44	322.06, 326.2, 330.22	123.82, 127.85	171.21, 186.26	216.82, 228.71, 232.77	268.29, 280.46, 284.46	324.57, 328
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	139.62, 144.22	200.35, 204.34, 208.26	267.42, 271.46	322.01, 326.15, 330.24	123.85, 127.89	171.17, 186.2	216.86, 228.77, 232.77	268.31, 280.48, 284.48	324.52, 328
XX0161.1 QA003F1 06-06-20-H01	144.22, 148.69	204.27, 210.18	271.52, 275.53	322.09	123.85, 127.77	171.23	228.78, 232.78	276.42, 280.45	311
XX0162.1 Reag BlankF1 06-06-20-B02									
XX0162.2 Reag BlankF2 06-06-20-C02									
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	139.55, 144.17	200.36, 204.36, 208.3	267.4, 271.45	321.97, 326.1, 330.18	123.82, 127.89	171.17, 186.21	216.79, 228.75, 232.75	268.3, 280.4, 284.48	324.47, 328
XX0165 QA004 QA 06-06-20-E02	148.58	200.36, 212.22	267.37, 271.47	317.79, 321.95	119.78	175.18, 175.18	232.67, 236.76	268.33, 276.41	316

FIGURE 3.6 View All Samples & Controls by Base Pair



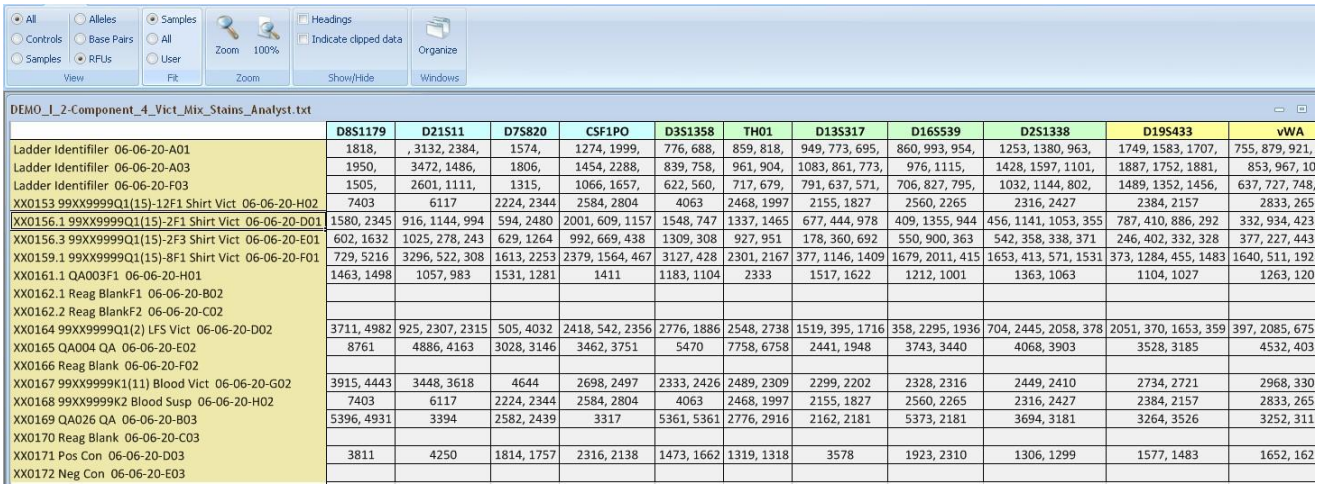
	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2
Ladder Identifiler 06-06-20-F03	123.04, 127.11, 131.15,	184.64, 186.68, 188.64, 192.56,	255.16, 259.14, 263.2,	304.72, 309.04, 313.3,	111.61,	166.04,	216.68, 220.69,	252.26, 264.2, 268.28,	309.26, 31
Ladder Identifiler 06-06-20-A03	123.04, 127.14, 131.22,	184.66, 186.65, 188.64, 192.53,	255.15, 259.21, 263.29,	304.75, 309.09,	111.64,	163.08,	216.75, 220.67,	252.34, 264.31,	307.36, 31
Ladder Identifiler 06-06-20-A01	123.13, 127.23, 131.3,	0, 180.67, 188.64, 192.61,	255.35, 259.4, 263.46,	305, 309.33, 313.68,	111.75,	163.09, 167.2,	216.83, 220.82,	252.46, 264.45,	307.55, 31
XX0161.1 QA003F1 06-06-20-H01	144.22, 148.69	204.27, 210.18	271.52, 275.53	322.09	123.85, 127.77	171.23	228.78, 232.78	276.42, 280.45	311.8
XX0162.1 Reag BlankF1 06-06-20-B02									
XX0162.2 Reag BlankF2 06-06-20-C02									
XX0165 QA004 QA 06-06-20-E02	148.58	200.36, 212.22	267.37, 271.47	317.79, 321.95	119.78	175.18, 175.18	232.67, 236.76	268.33, 276.41	316.0
XX0166 Reag Blank 06-06-20-F02									
XX0169 QA026 QA 06-06-20-B03	139.56, 144.16	208.21	275.37, 279.43	321.66	132, 132	179.14, 186.18	228.62, 236.65	280.31, 236.65	315.8
XX0170 Reag Blank 06-06-20-C03									
XX0171 Pos Con 06-06-20-D03	144.01	208.24	271.27, 275.32	321.74, 329.93	119.73, 123.76	179.14, 186.16	228.55	276.18, 280.25	324.2

FIGURE 3.7 View All Controls by Base Pair



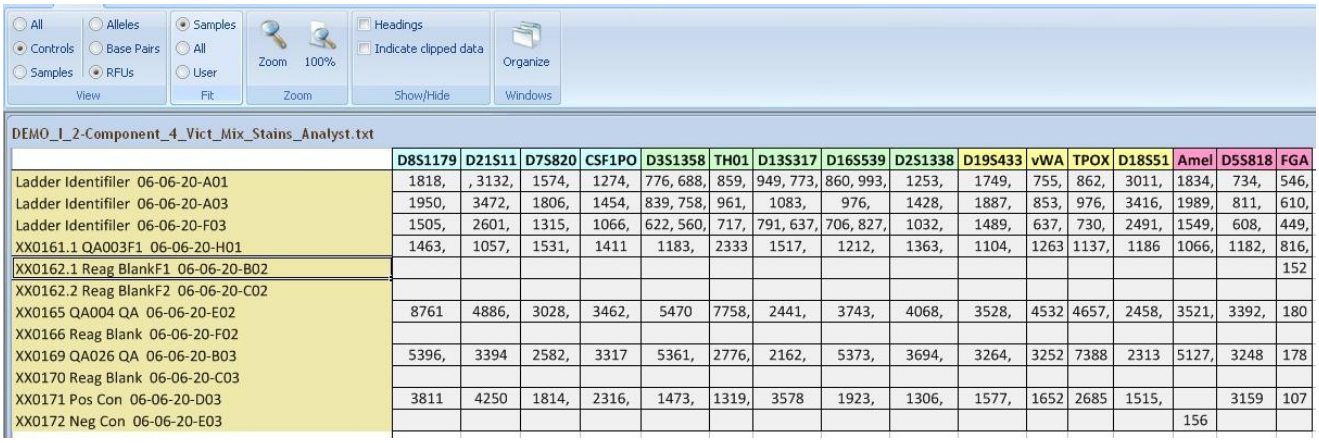
	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	139.55, 144.26	200.36, 204.36, 208.3	267.42, 271.48	321.95, 326.12, 330.16	123.82, 127.87	171.18, 186.17	216.86, 228.77, 232.79	268.4, 280.49, 284.52	324.47, 328.61, 344.11, 347.67	117.36,
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	139.62, 144.22	200.35, 204.4, 208.31	267.4, 271.44	322.06, 326.2, 330.22	123.82, 127.85	171.21, 186.26	216.82, 228.71, 232.77	268.29, 280.46, 284.46	324.57, 328.68, 344.13, 347.63	117.38,
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	139.62, 144.22	200.35, 204.34, 208.26	267.42, 271.46	322.01, 326.15, 330.24	123.85, 127.89	171.17, 186.2	216.86, 228.77, 232.77	268.31, 280.48, 284.48	324.52, 328.62, 344.13, 347.63	117.39,
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	139.55, 144.17	200.36, 204.36, 208.3	267.4, 271.45	321.97, 326.1, 330.18	123.82, 127.89	171.17, 186.21	216.79, 228.75, 232.75	268.3, 280.4, 284.48	324.47, 328.57, 344.13, 347.63	117.38,
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	139.54, 144.22	204.3, 208.26	271.5	322.05, 330.25	123.77, 127.83	171.23, 186.21	216.83, 232.79	280.5, 284.51	328.63, 344.1	
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	144.23	200.4	267.51, 271.56	322.09, 326.18	123.86	171.23, 186.25	228.78, 232.85	268.42, 280.55	324.58, 347.65	
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	144.23	200.4	267.51, 271.56	322.09, 326.18	123.86	171.23, 186.25	228.78, 232.85	268.42, 280.55	324.58, 347.65	

FIGURE 3.8 View All Samples by Base Pair



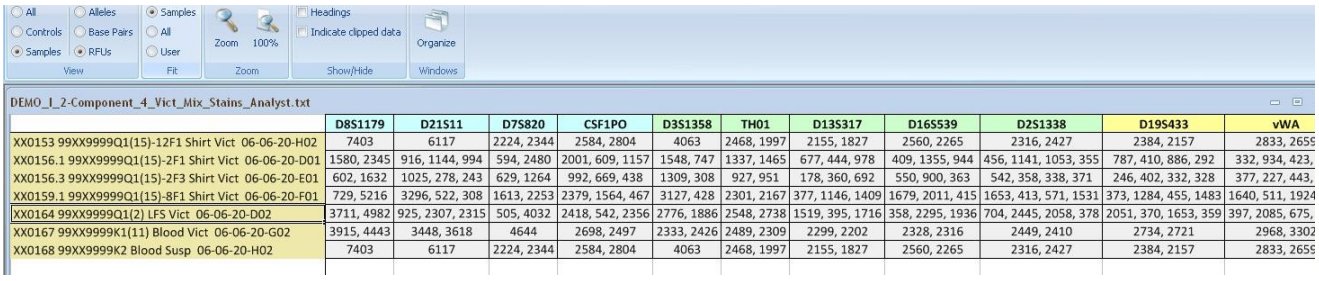
	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA
Ladder Identifiler 06-06-20-A01	1818,	, 3132, 2384,	1574,	1274, 1999,	776, 688,	859, 818,	949, 773, 695,	860, 993, 954,	1253, 1380, 963,	1749, 1583, 1707,	755, 879, 921,
Ladder Identifiler 06-06-20-A03	1950,	3472, 1486,	1806,	1454, 2288,	839, 758,	961, 904,	1083, 861, 773,	976, 1115,	1428, 1597, 1101,	1887, 1752, 1881,	853, 967, 10
Ladder Identifiler 06-06-20-F03	1505,	2601, 1111,	1315,	1066, 1657,	622, 560,	717, 679,	791, 637, 571,	706, 827, 795,	1032, 1144, 802,	1489, 1352, 1456,	637, 727, 748,
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	7403	6117	2224, 2344	2584, 2804	4063	2468, 1997	2155, 1827	2560, 2265	2316, 2427	2384, 2157	2833, 265
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	1580, 2345	916, 1144, 994	594, 2480	2001, 609, 1157	1548, 747	1337, 1465	677, 444, 978	409, 1355, 944	456, 1141, 1053, 355	787, 410, 886, 292	332, 934, 423
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	602, 1632	1025, 278, 243	629, 1264	992, 669, 438	1309, 308	927, 951	178, 360, 692	550, 900, 363	542, 358, 338, 371	246, 402, 332, 328	377, 227, 443
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	729, 5216	3296, 522, 308	1613, 2253	2379, 1564, 467	3127, 428	2301, 2167	377, 1146, 1409	1679, 2011, 415	1653, 413, 571, 1531	373, 1284, 455, 1483	1640, 511, 192
XX0161.1 QA003F1 06-06-20-H01	1463, 1498	1057, 983	1531, 1281	1411	1183, 1104	2333	1517, 1622	1212, 1001	1363, 1063	1104, 1027	1263, 120
XX0162.1 Reag BlankF1 06-06-20-B02											
XX0162.2 Reag BlankF2 06-06-20-C02											
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	3711, 4982	925, 2307, 2315	505, 4032	2418, 542, 2356	2776, 1886	2548, 2738	1519, 395, 1716	358, 2295, 1936	704, 2445, 2058, 378	2051, 370, 1653, 359	397, 2085, 675
XX0165 QA004 QA 06-06-20-E02	8761	4886, 4163	3028, 3146	3462, 3751	5470	7758, 6758	2441, 1948	3743, 3440	4068, 3903	3528, 3185	4532, 403
XX0166 Reag Blank 06-06-20-F02											
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	3915, 4443	3448, 3618	4644	2698, 2497	2333, 2426	2489, 2309	2299, 2202	2328, 2316	2449, 2410	2734, 2721	2968, 330
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	7403	6117	2224, 2344	2584, 2804	4063	2468, 1997	2155, 1827	2560, 2265	2316, 2427	2384, 2157	2833, 265
XX0169 QA026 QA 06-06-20-B03	5396, 4931	3394	2582, 2439	3317	5361, 5361	2776, 2916	2162, 2181	5373, 2181	3694, 3181	3264, 3526	3252, 311
XX0170 Reag Blank 06-06-20-C03											
XX0171 Pos Con 06-06-20-D03	3811	4250	1814, 1757	2316, 2138	1473, 1662	1319, 1318	3578	1923, 2310	1306, 1299	1577, 1483	1652, 162
XX0172 Neg Con 06-06-20-E03											

FIGURE 3.9 View All Samples & Controls by RFUs



	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
Ladder Identifiler 06-06-20-A01	1818,	, 3132,	1574,	1274,	776, 688,	859,	949, 773,	860, 993,	1253,	1749,	755,	862,	3011,	1834,	734,	546,
Ladder Identifiler 06-06-20-A03	1950,	3472,	1806,	1454,	839, 758,	961,	1083,	976,	1428,	1887,	853,	976,	3416,	1989,	811,	610,
Ladder Identifiler 06-06-20-F03	1505,	2601,	1315,	1066,	622, 560,	717,	791, 637,	706, 827,	1032,	1489,	637,	730,	2491,	1549,	608,	449,
XX0161.1 QA003F1 06-06-20-H01	1463,	1057,	1531,	1411	1183,	2333	1517,	1212,	1363,	1104,	1263	1137,	1186	1066,	1182,	816,
XX0162.1 Reag BlankF1 06-06-20-B02																152
XX0162.2 Reag BlankF2 06-06-20-C02																
XX0165 QA004 QA 06-06-20-E02	8761	4886,	3028,	3462,	5470	7758,	2441,	3743,	4068,	3528,	4532	4657,	2458,	3521,	3392,	180
XX0166 Reag Blank 06-06-20-F02																
XX0169 QA026 QA 06-06-20-B03	5396,	3394	2582,	3317	5361,	2776,	2162,	5373,	3694,	3264,	3252	7388	2313	5127,	3248	178
XX0170 Reag Blank 06-06-20-C03																
XX0171 Pos Con 06-06-20-D03	3811	4250	1814,	2316,	1473,	1319,	3578	1923,	1306,	1577,	1652	2685	1515,		3159	107
XX0172 Neg Con 06-06-20-E03														156		

FIGURE 3.10 View All Controls by RFUs



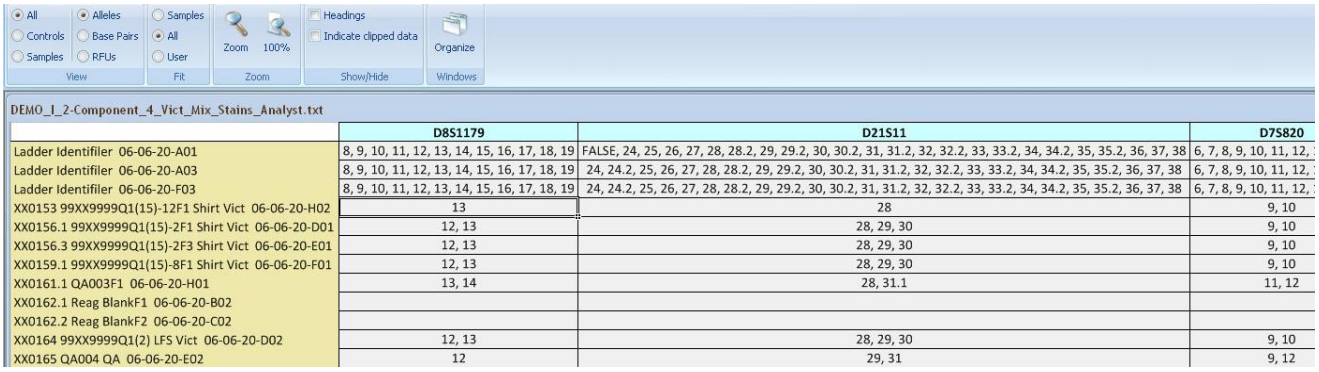
	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	7403	6117	2224, 2344	2584, 2804	4063	2468, 1997	2155, 1827	2560, 2265	2316, 2427	2384, 2157	2833, 2659
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	1580, 2345	916, 1144, 994	594, 2480	2001, 609, 1157	1548, 747	1337, 1465	677, 444, 978	409, 1355, 944	456, 1141, 1053, 355	787, 410, 886, 292	332, 934, 423,
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	602, 1632	1025, 278, 243	629, 1264	992, 669, 438	1309, 308	927, 951	178, 360, 692	550, 900, 363	542, 358, 338, 371	246, 402, 332, 328	377, 227, 443,
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	729, 5216	3296, 522, 308	1613, 2253	2379, 1564, 467	3127, 428	2301, 2167	377, 1146, 1409	1679, 2011, 415	1653, 413, 571, 1531	373, 1284, 455, 1483	1640, 511, 1924
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	3711, 4982	925, 2307, 2315	505, 4032	2418, 542, 2356	2776, 1886	2548, 2738	1519, 395, 1716	358, 2295, 1936	704, 2445, 2058, 378	2051, 370, 1653, 359	397, 2085, 675,
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	3915, 4443	3448, 3618	4644	2698, 2497	2333, 2426	2489, 2309	2299, 2202	2328, 2316	2449, 2410	2734, 2721	2968, 3302
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	7403	6117	2224, 2344	2584, 2804	4063	2468, 1997	2155, 1827	2560, 2265	2316, 2427	2384, 2157	2833, 2659

FIGURE 3.11 View All Samples by RFUs

Fit

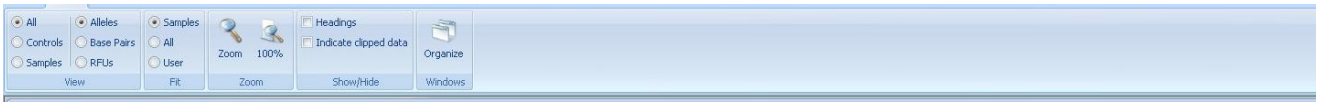
The **Fit** section allows the user to determine the width of the columns. "Samples" change the column width to fit all sample data only. "All" changes the column width to show all the data for both the samples and the controls. "User" will keep the columns the user defined width when changing the views. The column width remains the same no matter what is being viewed. Click on the circle to the left of the desired choice.

FIGURE 3.12 Fit Section



	D8S1179	D21S11	D7S820
Ladder Identifiler 06-06-20-A01	8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	FALSE, 24, 25, 26, 27, 28, 28.2, 29, 29.2, 30, 30.2, 31, 31.2, 32, 32.2, 33, 33.2, 34, 34.2, 35, 35.2, 36, 37, 38	6, 7, 8, 9, 10, 11, 12,
Ladder Identifiler 06-06-20-A03	8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	24, 24.2, 25, 26, 27, 28, 28.2, 29, 29.2, 30, 30.2, 31, 31.2, 32, 32.2, 33, 33.2, 34, 34.2, 35, 35.2, 36, 37, 38	6, 7, 8, 9, 10, 11, 12,
Ladder Identifiler 06-06-20-F03	8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	24, 24.2, 25, 26, 27, 28, 28.2, 29, 29.2, 30, 30.2, 31, 31.2, 32, 32.2, 33, 33.2, 34, 34.2, 35, 35.2, 36, 37, 38	6, 7, 8, 9, 10, 11, 12,
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13	28	9, 10
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10
XX0161.1 QA003F1 06-06-20-H01	13, 14	28, 31.1	11, 12
XX0162.1 Reag BlankF1 06-06-20-B02			
XX0162.2 Reag BlankF2 06-06-20-C02			
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10
XX0165 QA004 QA 06-06-20-E02	12	29, 31	9, 12

FIGURE 3.13 Column widths are widen to show All



	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
Ladder Identifiler 06-06-20-A01	8, 9, 10,	FALSE, 24,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
Ladder Identifiler 06-06-20-A03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
Ladder Identifiler 06-06-20-F03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0161.1 QA003F1 06-06-20-H01	13, 14	28, 31.1	11, 12	10	14, 18	6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12	X, Y	12, 13	22, 26
XX0162.1 Reag BlankF1 06-06-20-B02																22
XX0162.2 Reag BlankF2 06-06-20-C02																
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0165 QA004 QA 06-06-20-E02	12	29, 31	9, 12	9, 10	14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 18	X, Y	11, 13	19, 23

FIGURE 3.14 Column widths are changed to fit just the Sample amounts.

Zoom

The **Zoom** section allows you to change to size the page is displayed in. Click the Zoom button to bring up the Zoom window, which allows you to change to a specific size. Click 100%, to change it back to original size.

FIGURE 3.15 Zoom Section

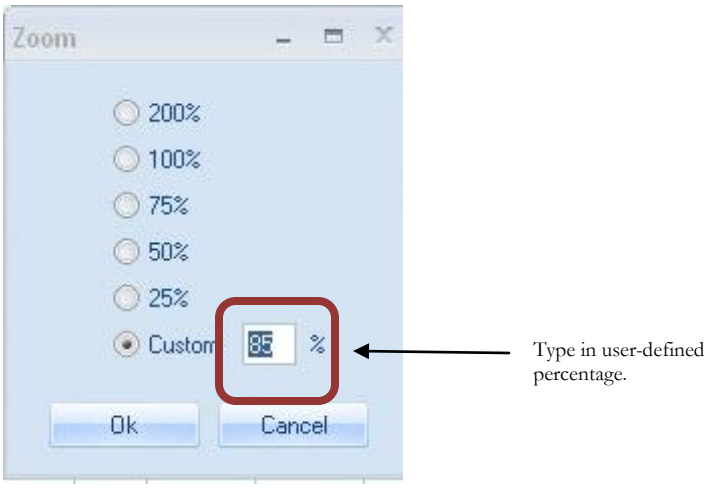


FIGURE 3.16 Zoom Window

Show/Hide

The **Show/Hide** section, allows headings and clipped data to either be shown or hidden. The Headings option is for viewing the headings for each column. You can change the size of the column to a user-defined width by displaying the headers and using your mouse to change the size of a specific column. The Indicate clipped data option outlines in red all cells that are not shown completely, so you know there is more information in that cell. If a check mark is in the box next to either option, it means headings and/or clipped data will be shown. If no check mark is shown, headings and/or clipped data will be hidden.

FIGURE 3.17 Show/Hide Section

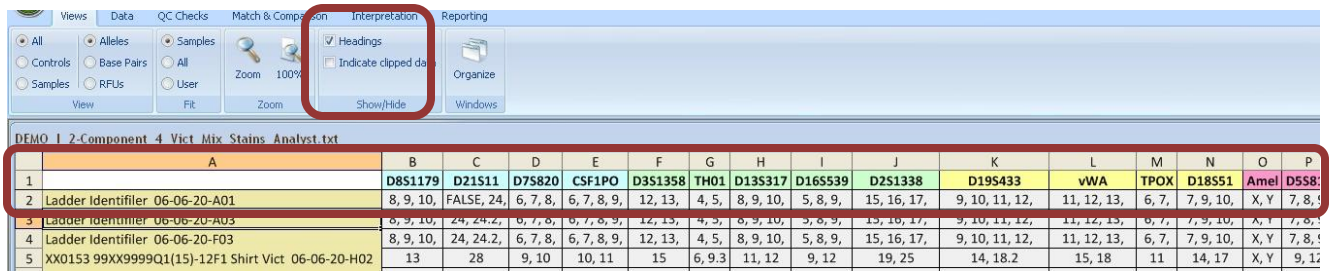


FIGURE 3.18 Headings Shown

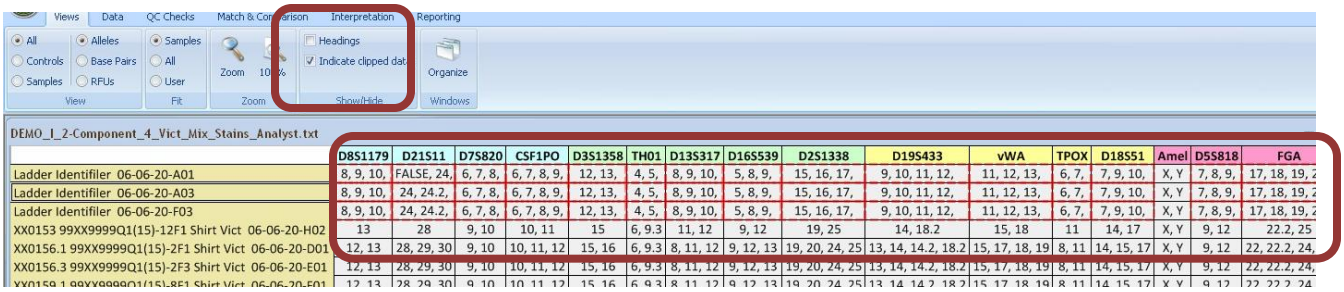


FIGURE 3.19 Clipped Data Shown

Organize

The **Organize** section, allows you to move a window to the top of all other windows. This is a useful tool if you have several windows open at the same time. Click on the "Organize" button, and the window shown in Figure 3.21 will appear. All opened windows, including tables, mixture interpretation windows, frequency calculations, and reports will appear.

FIGURE 3.20 Organize Section

Choose from the list the window you want to bring to the front and click on the "Bring to Front" button. Your selected window will now be brought to the front of all other windows. You can also undock a window from ArmedXpert by clicking on the "Undock" button next to the appropriate window. To return the window back to ArmedXpert, click on the "Undock" button again and the window will be moved back into ArmedXpert.

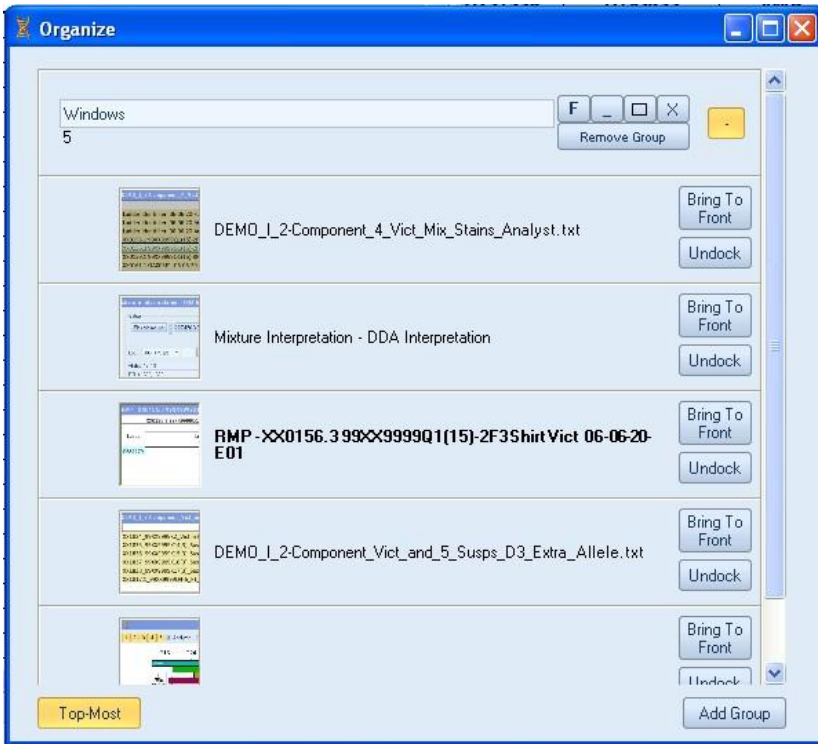


FIGURE 3.21 Organize Window

You can sort the windows by Groups by clicking on the "Add Group" button on the bottom of the Organize window. This will allow you to perform commands for an entire group, like bringing all windows in a specific group to the front or minimize, maximize, or close the entire group. The commands are to the right of the group name. If you move your mouse over any of the commands buttons, a description of the command will be displayed. To move a window to another group, click on it and drag it to the appropriate group. You can click on any of the Group names to rename them. The number of windows in a particular group is listed under the group name.

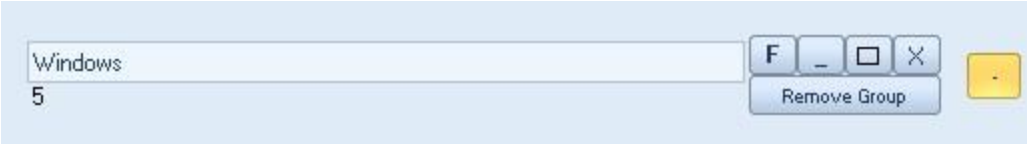


FIGURE 3.22 Group Commands

When the "Top-Most" button appears yellow, the Organize window will remain in the front of all other windows unless it is minimized. Click on the "Top-Most" button to toggle this feature on or off.

Click on the red X on the upper right hand corner of the Organize window to close it or the – on the upper right hand corner to minimize the Organize window.

➧ Note: The Organize window opens as an undocked window from ArmedXpert.

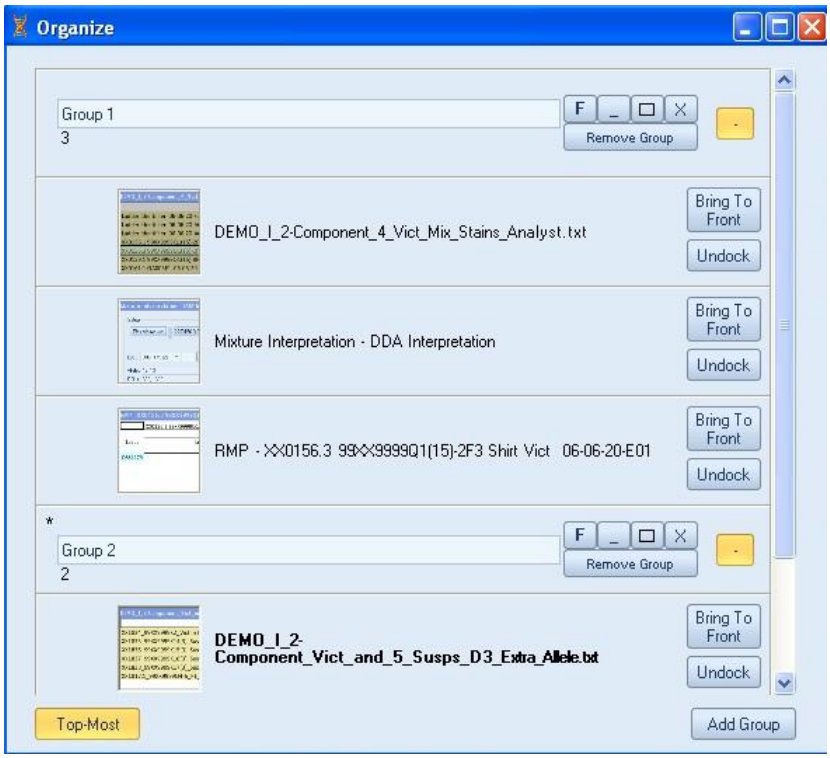


FIGURE 3.23 Organize Window with Groups

Chapter 4

Tab Two - Data

The Data tab is used add new samples, edit samples, combine samples, commit samples, load samples, and sort samples. It is also, where you can connect or disconnect to a server. There are three main sections: **Samples**, **Data Source**, and **Sort**.

FIGURE 4.1 Data Tab

Samples

There are four commands in the **Samples** Section: New Sample, Edit Sample, Change Kit, and Combine Sources. The New Sample option allows you to enter manually a new sample onto your current sample table or to a new table. The Edit Sample option allows you to edit any sample on your sample table. The Change Kit option allows you to change the kit that is shown for the sample. Finally, the Combine Sources option allows you to combine specific samples or entire tables into one new sample table.

FIGURE 4.2 Sample Section

When you click on **New Sample**, the window shown in Figure 4.4 below will appear. This allows you to manually enter in a sample to an open sample table or a new table. To enter in a new sample, first select source type by clicking on ▼ arrow next to the Set Sample Source Type box then choose the correct type from the drop down list.

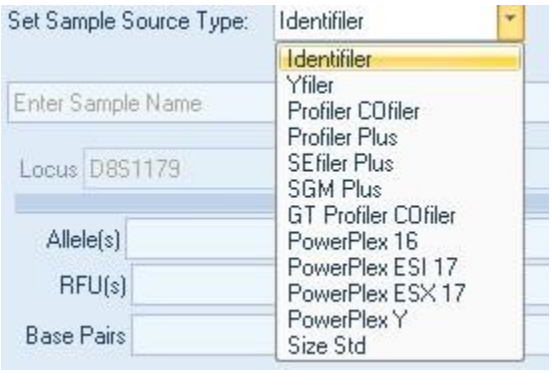


FIGURE 4.3 Set Sample Source Type drop down list.

Next, choose the sample table you would like to add the sample to. Click on the ▼arrow next to the Send to box and choose from the available sample tables opened. You also have the option to send it to a new blank table. **Note:** The sample table has to be opened to add a new sample to it. Enter a sample name. Under each locus, type in the allele(s), RFU(s), and Base Pairs. Use a comma to separate more than one number in each box. If you need to enter a new locus, click the "Add Locus" button. Once you are finished, click the "Ok" button in the upper right corner of the window. The button refreshes the list of destination tables.

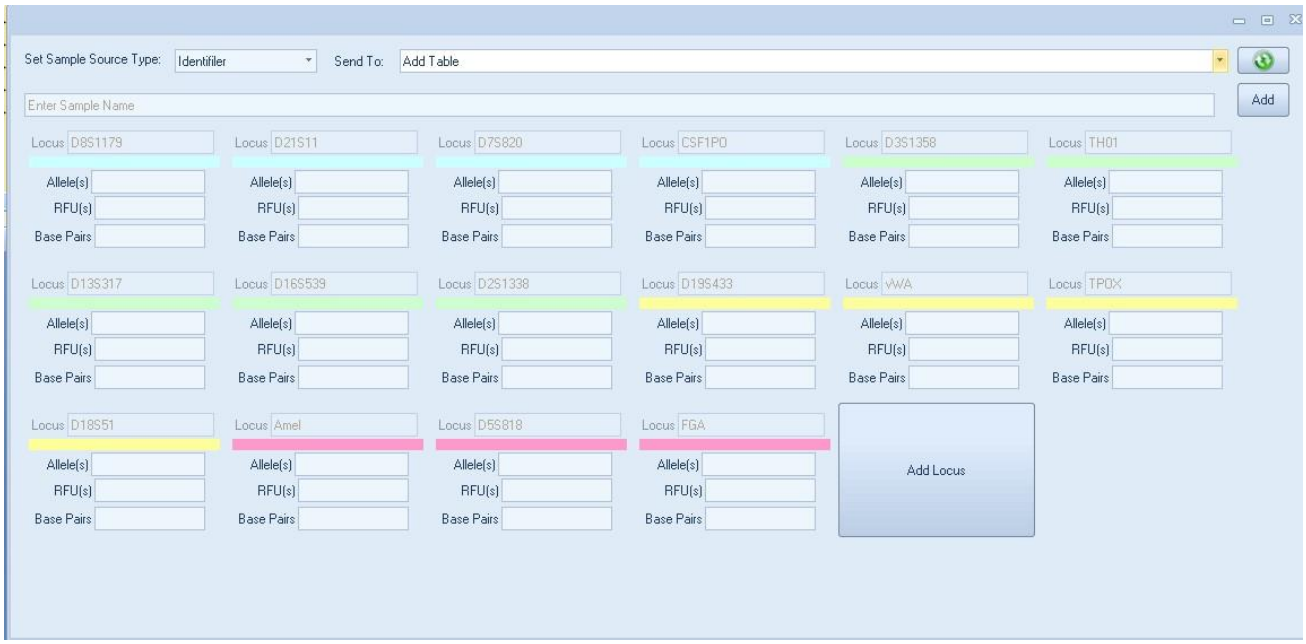


FIGURE 4.4 New Sample Window

To edit any sample on your sample table, click the **Edit Sample** button. The select/pick via mouse window will appear as seen below in figure 4.5. You can use your mouse to select the sample you wish to edit or click on the ▼arrow and select the one you would like to edit from the drop down list

FIGURE 4.5 Select/Pick via mouse Window.

A window similar to the Enter new sample window will appear. At each locus, the allele(s), RFU(s), and Base Pairs can be added to or changed. All fields that cannot be changed are grayed out. Once you complete your edits, click on the "Edit" button.

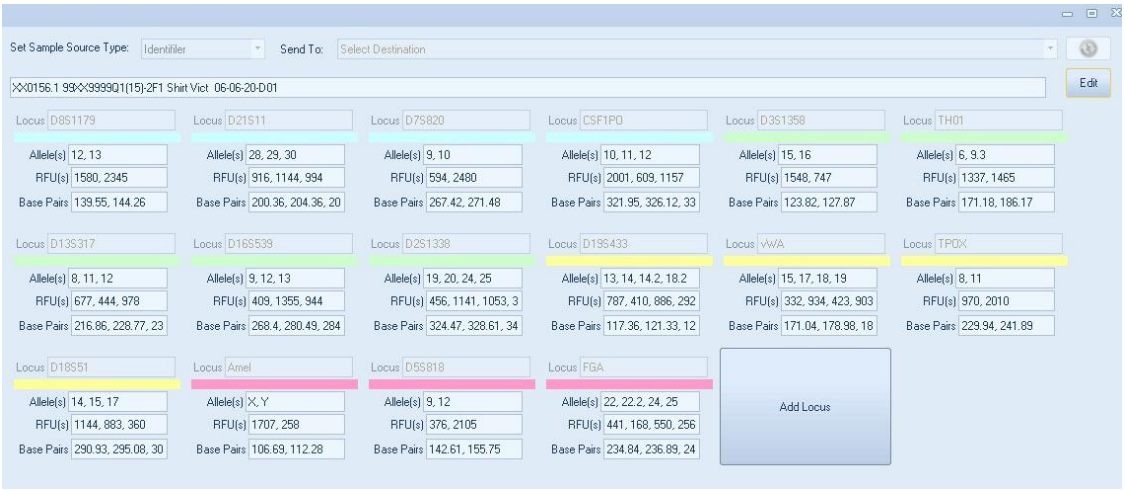


FIGURE 4.6 Edit Sample Window

To change the kit of your sample table, click on the "**Change Kit**" button. The "Edit Source" window will open. Click on the arrow next to the Kit name. Change to the appropriate kit from the drop down list. ↳ Note: If the kit that you wanted is not showing, please contact NicheVision.

Edit Source
Kit: Identifiler
Loci:
1: D8S1179 2: D21S11 3: D7S820 4: CSF1PO 5: D3S1358 6: TH01
7: D13S317 8: D16S539 9: D2S1338 10: D19S433 11: vWA 12: TPOX
13: D18S51 14: Amel 15: D5S818 16: FGA
Ok
Cancel

FIGURE 4.7 Edit Source Window

To combine sample table(s) or sample(s) into one new combined sample table, click on the **Combine Source** button. This will open the Combine Sources window.

Note: Each of the sample tables must be open to use this feature.

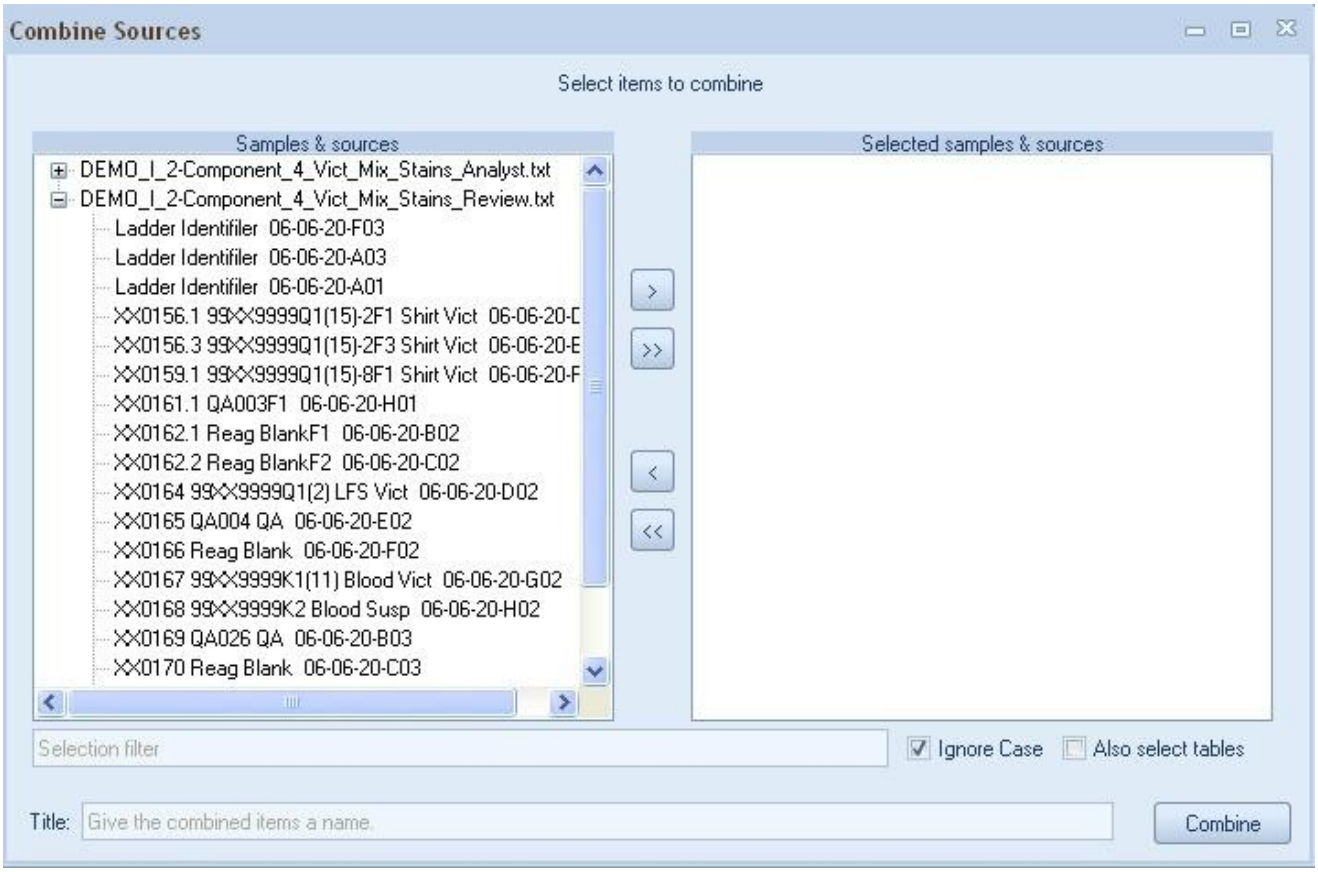


FIGURE 4.8 Combine Sources Window

The Sample & sources box displays all open sample tables. By clicking on the ⊞ next to the Sample Table name, the list will expand to show all available samples on the sample table. Click on the entire sample table or the specific sample you wish to combine and then the arrow > button. The sample table or sample will move to the selected samples & sources box on the right. Repeat for the next sample table or sample. The >> button will move all samples at once.

You can also use the Selection Filter box to enter in a specific name and all samples containing that name will be highlighted. This is helpful in finding certain samples in a large sample table. Click the > button and all samples highlighted will move to the Selected samples & sources box. The "Ignore Case" next to the selection filter box should be checked if you would like the selection filter choice to include all samples containing the filter regardless of upper or lower case. The "Also select tables" option should be checked if you would like the selection filter to choose tables as well as samples that contain the filter.

If you wish to remove a sample table or sample from the Selected samples & sources box, click on the sample table or sample, and then click on the < button.

By default, the names of all selected samples will automatically fill in as the title of the combined report. You can keep the default title or you can type in a new name for the combined report that is being created. Click the "Combine" button to create the combined report.

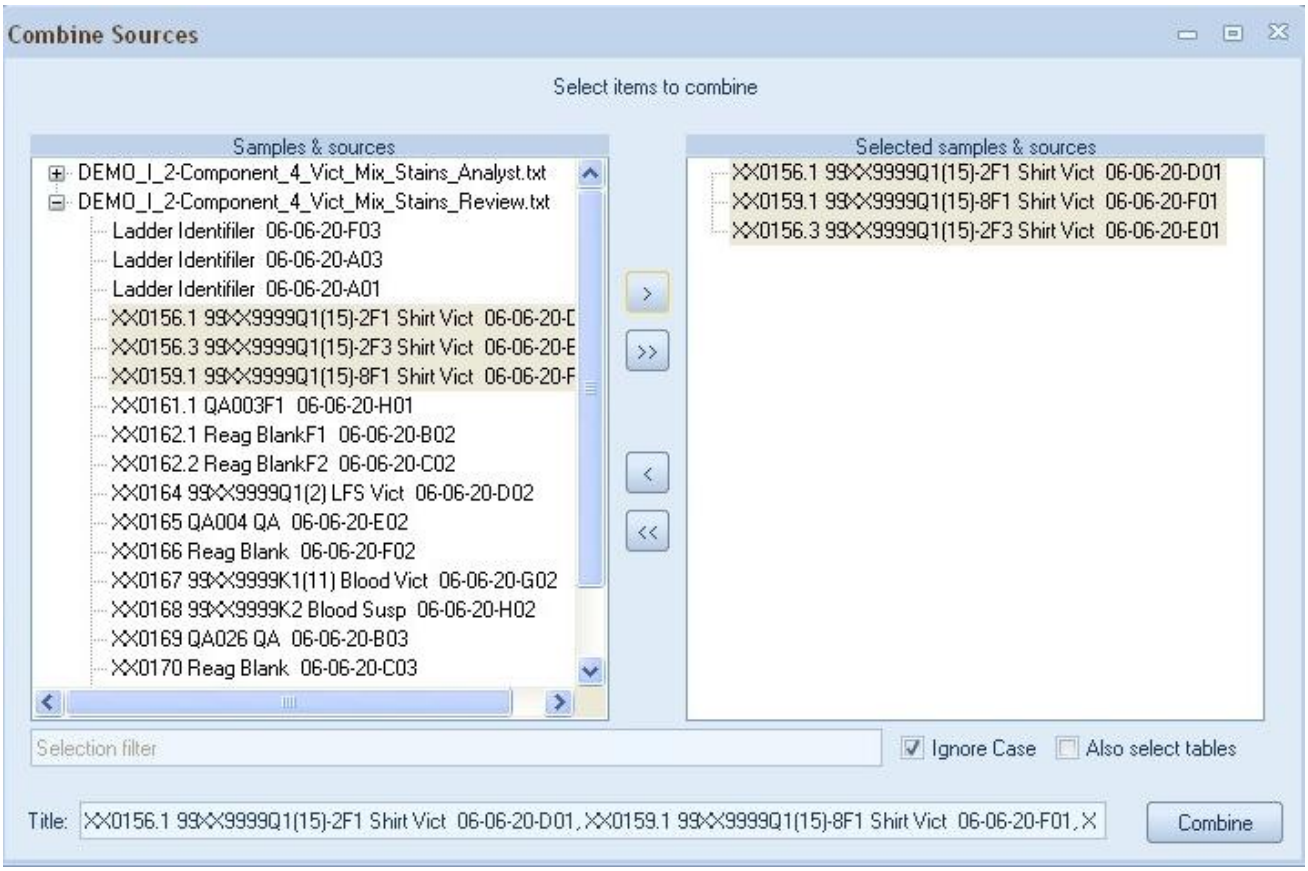


FIGURE 4.9 Combine Sources Window

A new combined sample table will appear with the default or user defined title. An example is shown in Figure 4.10 below. In this example, the three samples selected above were combined into a new sample table.

XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01, XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01, XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01 15h10m48s

	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 2
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 2
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16, 17	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 2

FIGURE 4.10 Combined Sample table Example

Data Source

The four commands in the **Data Source** Section are Commit Samples to Data Source, Load Samples From Data Source, Connect Server, and Disconnect Server. The Commit Samples to Data Source allows you to save or commit a sample to your database and the Load Samples to Data Source allows you to retrieve it. One example of a use for this is to commit your staff profiles to the Database so they can be retrieved for use later to compare against. Any sample can be saved or committed to your database. Connect and Disconnect Server commands allow you to connect or disconnect to the server.

FIGURE 4.11 Data Source Section

To commit a sample or a table as a table to the ArmedXpert Database, click on the sample table so it is open and active on the screen. One example of this is to commit a ladder and controls check table to the Datasource, so that you can use it to check controls. Click on the **Commit Samples to Data Source** button. The Datasource Commit window will appear. Click on the + next to the Sample Table and all the samples on the sample table will appear on the left hand side of the window. Click on the sample or table you wish to commit, click the > button, and the sample or table will be move to the box on the right. Repeat this for as many samples as you wish to commit.

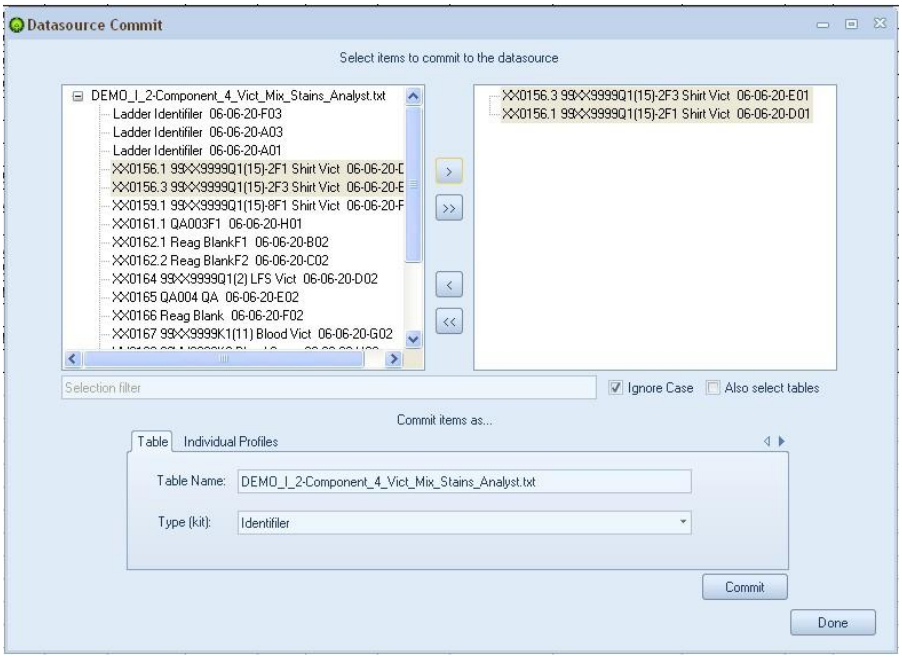


FIGURE 4.12 Datasource Commit Table Window

You can also use the Selection Filter box to enter in a specific name and all samples containing that name will be highlighted. This is helpful in finding certain samples in a large sample table. Click the > button and all samples highlighted will move to the right hand box. As shown below in Figure 4.13, the word Vict was added to the Selection Filter box and all samples that include the word Vict are highlighted. The "Ignore Case" option allows all forms of the filter to be highlighted regardless of lower or upper case. The "Also select tables" option allows tables to also be highlighted. In the example shown below, the "Also select table" option is not checked so even though the table contains the word Vict, it is not highlighted.

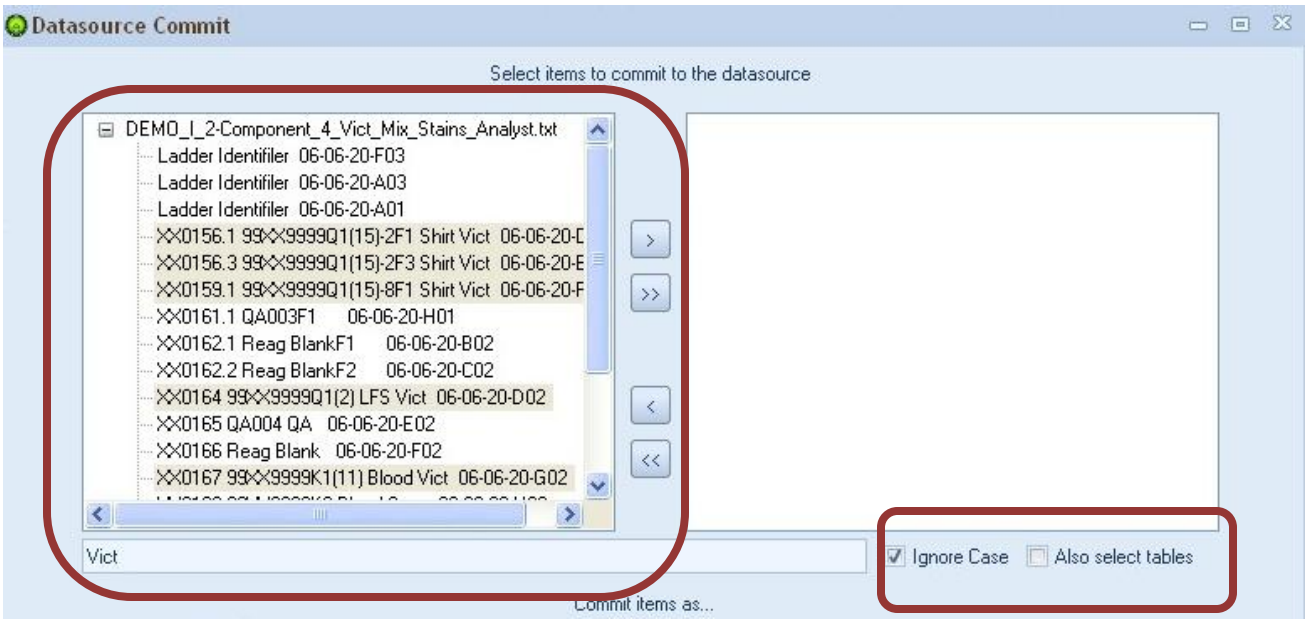


FIGURE 4.13 Datasource Commit Table window with filter being used

The table name and Type (kit) will be filled in; you can change these if wanted. Once finished choosing samples and/or tables and all info is filled in correctly, click the "Commit" button. When finished with the window, click the "Done" button to close the window.

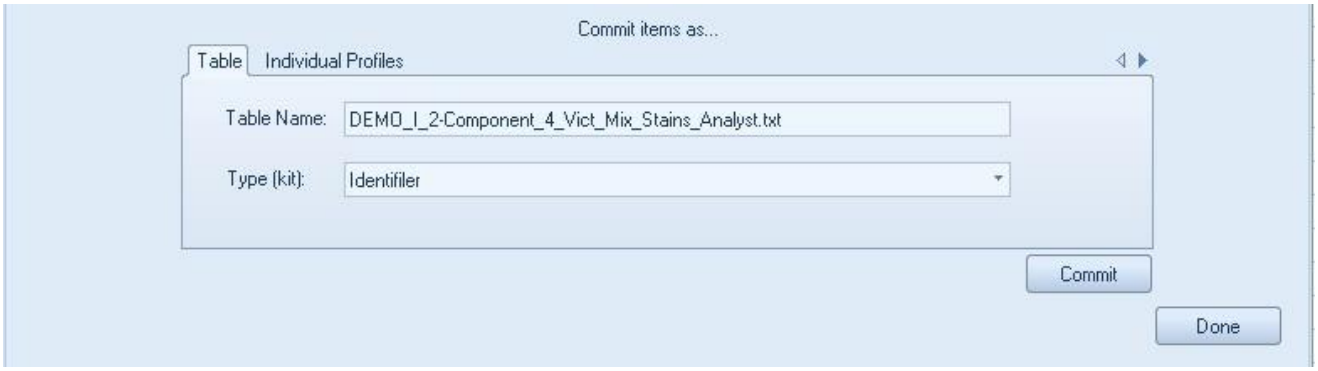


FIGURE 4.14 Datasource Commit Table bottom portion of window

You can commit individual profiles such as staff profiles (as shown in Figure 4.15 below), QA profiles, and SRM profiles. Click on the appropriate sample table so it is open and active on the screen. Then click the Commit Sample to Data Source button. All the individual samples will show on the right side of the window (our staff profile example is shown as alphanumeric as opposed to names). Click on the sample you would like to commit and click the > button to move it to the left side of the window or click the >> button and all the samples will move to the left side of the window.

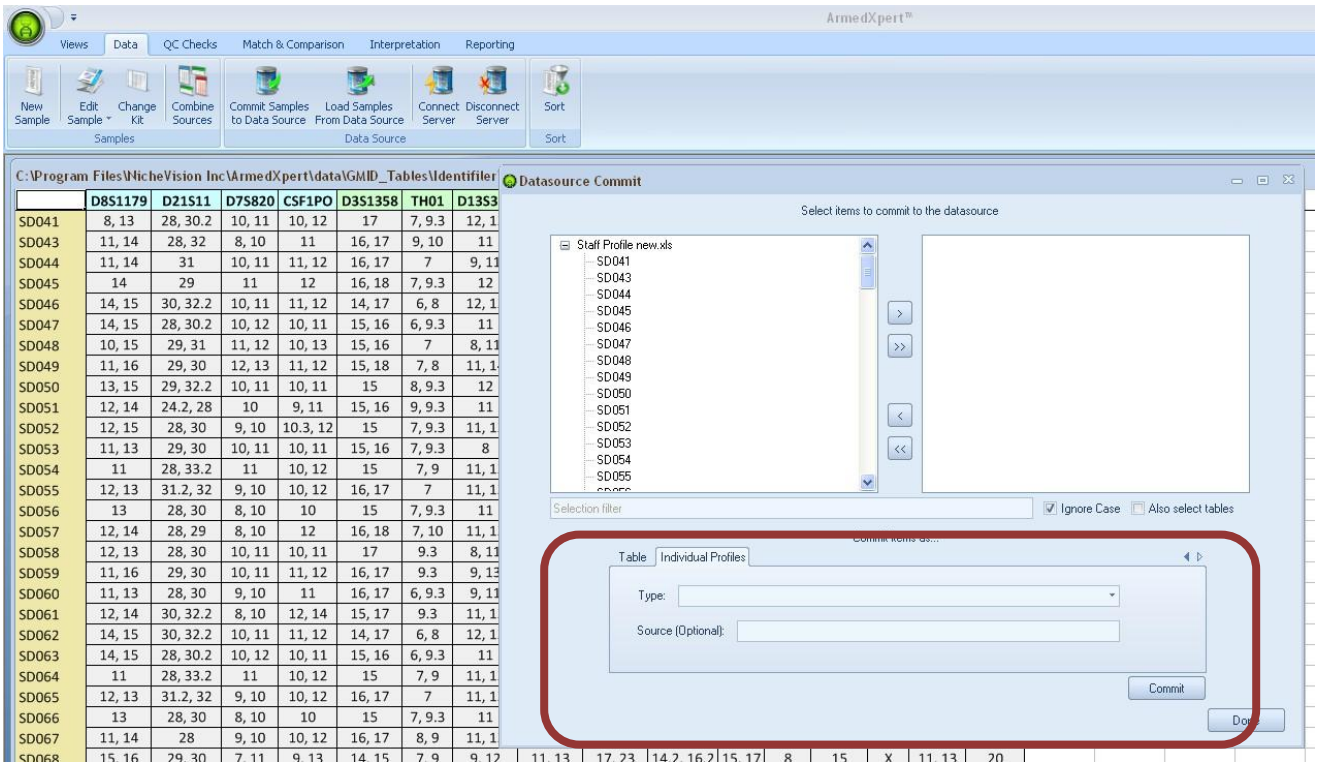


FIGURE 4.15 Datasource Commit Individual Profiles Window

Click on the Individual Profiles tab. Choose type of profile you are adding from the drop down menu next to the "Type" box. The options are shown below in Figure 4.16. Source is optional to be filled in. Click "Commit" button. When finished with the window, click the "Done" button to close the window.

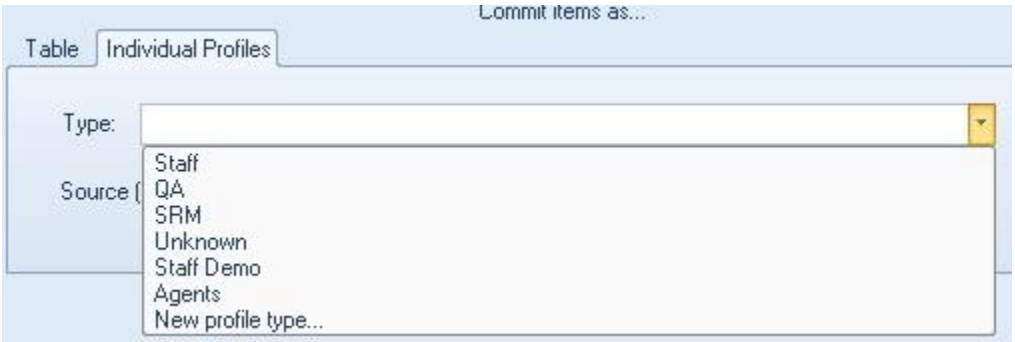


FIGURE 4.16 Drop down list

To Load a sample table or sample that you committed from your database, click on the **"Load Samples From Data Source"** button. The Datasource Load window will appear. All committed tables and individual samples will show up in the left hand side box based on whether a check mark is in the boxes left of "Search Tables" or "Search Profiles." The individual profiles are shown highlighted green below in Figure 4.17, and the tables are highlighted orange.

Click on the + next to the Sample Table if you wish to select a specific sample from the sample table. Click on the sample or the whole sample table you wish to commit, click the > button, and your selection will be move to the Selected samples & sources box on the right. Once finished with your selection, click the "Load" button. The Data will load and open on its own table.

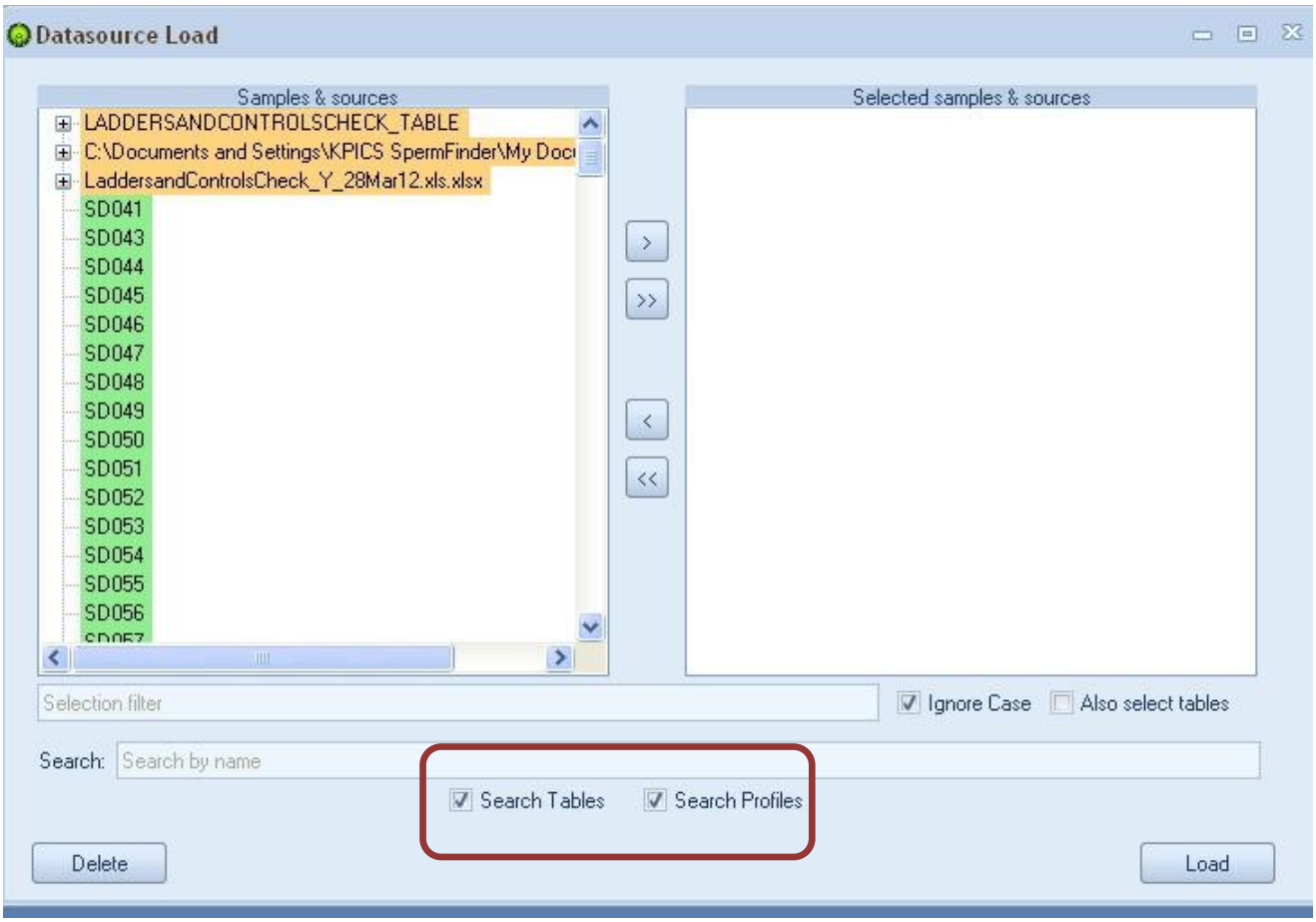


FIGURE 4.17 Datasource Load Window

If you would like to delete a sample table or a specific sample from a committed Datasource, you do it from this window. Move the table or sample you want to delete to the right side of the window as described above. To have the individual profiles to show like the Staff Profile, click on the box next to "Search Profiles."

In the example shown in Figure 4.18 below, an individual staff sample is being deleted from the staff profile. Once you have selected the correct sample(s) or table, click on the "Delete" button. If you choose the entire table, it will delete the entire profile.

Note: It can cause an error to delete an entire QA profile, so just delete the samples found in the QA profile not the QA profile itself.

A confirmation window will appear to confirm you want to delete. Click "Ok" to confirm the delete.

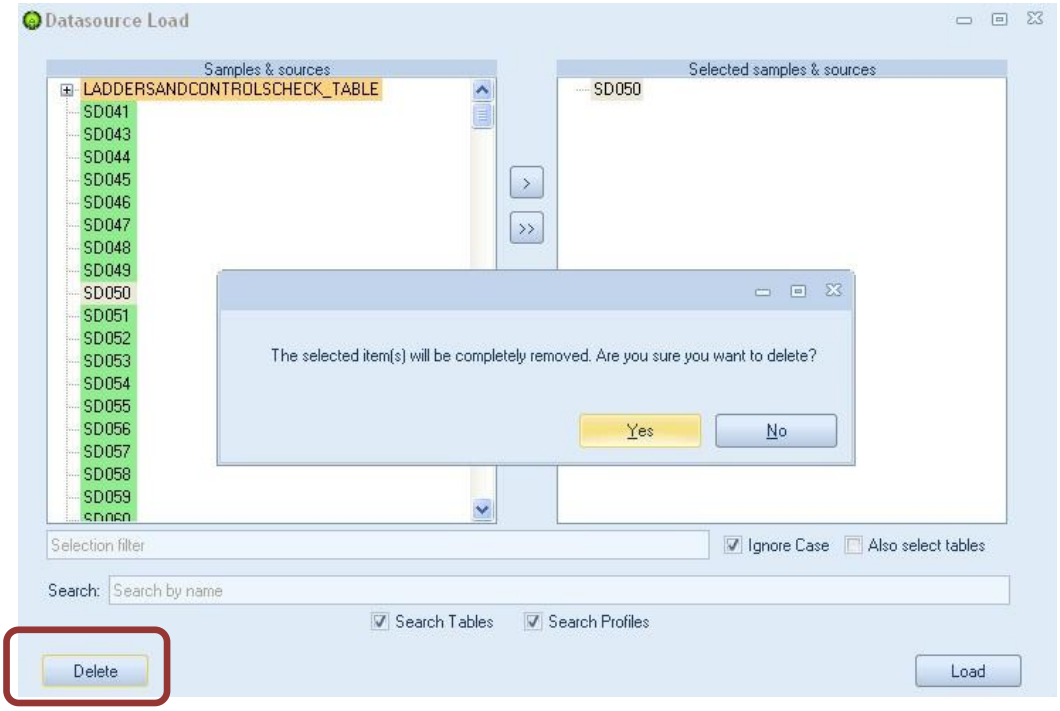


FIGURE 4.18 Deleting a Datasource sample

To **connect** or **disconnect** from the server, click on the appropriate command. When you click on the "Connect Server" button, the Login window appears. This enables you to change between databases while in ArmedXpert. The Login window instructions in chapter one.

FIGURE 4.19 Connect/Disconnect Server buttons

Sort

The final section is the **Sort** section. There are two options: Sort and Sort Samples.

The **Sort** option allows you to sort by any of the columns in your sample table. Click on the Sort button and the Sort Window opens as shown in Figure 4.21 below. Select the key(s) to sort by. Then click on the > button to bring over one key (keys = columns on the spreadsheet). The >> button is used if selecting all the keys. The keys selected will then appear in the box to the right. You can change to Sort Order from Descending to Ascending by clicking on the Sort Order box and choosing from the drop down list, the applicable choice. You can also sort as normal or text as numbers, by choosing under the drop down list in the Sort As column. Once finished, click the "Ok" button.

FIGURE 4.20 Sort Section

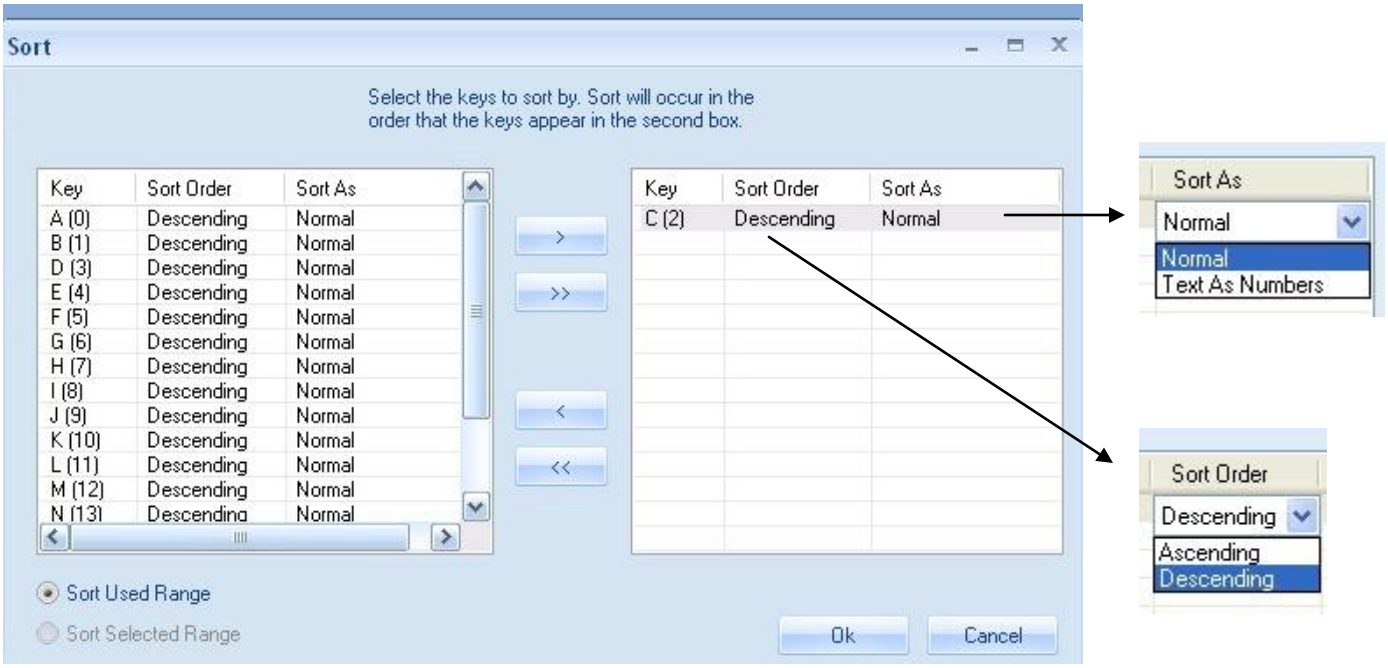


FIGURE 4.21 Sort Window

The **Sort Sample** option allows you to sort by the samples on your sample table. Click on "Sort Samples" and the Sort Sample window will open. You can either perform an auto sort or manually sort the samples. To Auto Sort the samples click on "Sample Name" or "Allele Count." To manual sort the samples, click on any of the sample names with your mouse. Drag the sample name to the place you would like the sample to appear. Do this until your samples are in the order you would like them to appear. Once finished, click on the "Ok" button.

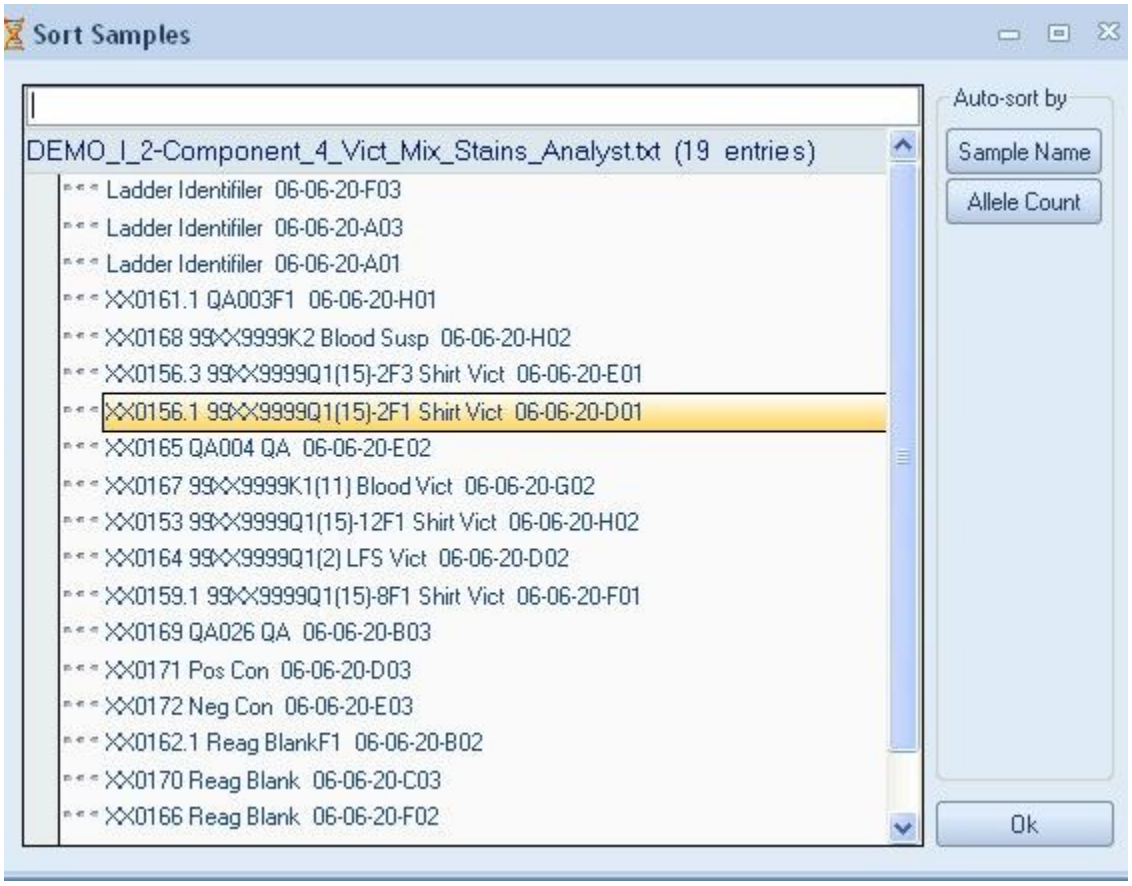


FIGURE 4.22 Sort Samples Window

Chapter 5

Tab Three – QC Checks

The QC Checks tab is used to do quality control checks on your data. There are four sections under the QC Checks. They are **Standard Checks**, **CODIS QC**, **QC Review**, and **Clear**. The quality control settings for the checks are set up using the ArmedXpert Options Menu discussed in Chapter 2.

FIGURE 5.1 QC Checks Tab

Standard Checks

There are four types of standard quality control checks. They are Check Controls, Check Allele Ordering, Stutter, and RFUs. The standard checks will evaluate the samples on your active sample table for quality control issues.

Click on each type of standard check you wish to perform. After clicking each command, the check will be performed and your page will display the results of the check. All errors will be highlighted. A key will be displayed on the page to explain what the highlighted colors mean for the check being done. If no errors are found on the check, a message will appear at the bottom of the page that states, "Check completed with no errors." as shown below in figure 5.2. Click on the **Clear Checks** button to clear the check results on the page.

Description of each standard check and examples of each check results are shown on the next two pages. The key for each check is shown circled in red in each example.

XX0166 Reag Blank 06-06-20-F02																	
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10, 10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X, X	12, 12	22, 24	
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11, 11	14, 17	X, Y	9, 12	22.2, 25	
XX0169 QA026 QA 06-06-20-B03	12, 15	30, 30	11, 12	11, 11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15, 18	8, 8	13, 13	X, Y	11, 11	20, 20	
XX0170 Reag Blank 06-06-20-C03																	
XX0171 Pos Con 06-06-20-D03	13, 13	30, 30	10, 11.1	10, 12	14, 15	8, 9.3	11, 11	11, 12	19, 23	14, 15	17, 18	8, 8	15, 19		11, 11	23, 24	
XX0172 Neg Con 06-06-20-E03														X, X			
Check completed with no errors.																	

FIGURE 5.2 Example of a Check completed with no errors screen.

Check Controls evaluates ladders, controls, and QA profiles to determine if they are within established parameters. The ladders, controls, and QA profiles that are within established parameters are highlighted green. The ones that are not are highlighted pink. Once you click on the "Check Controls" button, only the controls will appear on the table. To bring the samples back in view, either click the F8 button (once and just the samples will be shown, twice and both samples and controls will be shown) or go back to the View tab and click on All or Samples depending on what you want to view.

The Check Controls feature depends on the settings in the database. If the Check controls feature is not working correctly check that, the following four things are correct in ArmedXpert.

- You may need a few expressions added or changed to the Control qualifiers.
  - See Chapter 2 under ArmedXpert Options section for instructions.
- You may need to add the correct table that is used to check the controls against.
  - See Chapter 2 under ArmedXpert Options section for instructions.
- You may need to add or correct the QA Profile used to check the QA Controls.
  - See Chapter 4 under Data Source section for instructions.
- You may need to change the thresholds for the Quality Controls.
  - See Chapter 2 under ArmedXpert Options section for instructions.

	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
Ladder Identifiler 06-06-20-F03	8, 9, 10,	24,	6, 7, 8,	6, 7, 8,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16,	9, 10, 11,	11,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17,
Ladder Identifiler 06-06-20-A03	8, 9, 10,	24,	6, 7, 8,	6, 7, 8,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16,	9, 10, 11,	11,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17,
Ladder Identifiler 06-06-20-A01	8, 9, 10,	FALSE,	6, 7, 8,	6, 7, 8,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16,	9, 10, 11,	11,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17,
XX0161.1 QA003F1 06-06-20-H01	13, 14	28, 31.1	11, 12	10	14, 18	6	8, 9	11, 13	17, 24	13, 14	14,	8, 11	12	X, Y	12, 13	22,
XX0162.1 Reag BlankF1 06-06-20-B02																22
XX0162.2 Reag BlankF2 06-06-20-C02																
XX0165 QA004 QA 06-06-20-E02	12	29, 31	9, 12	9, 10	14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14,	8, 11	16, 18	X, Y	11, 13	19,
XX0166 Reag Blank 06-06-20-F02																
XX0169 QA026 QA 06-06-20-B03	12, 15	30	11, 12	11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15,	8	13	X, Y	11	20
XX0170 Reag Blank 06-06-20-C03																
XX0171 Pos Con 06-06-20-D03	13	30	10, 11.1	10, 12	14, 15	8, 9.3	11	11, 12	19, 23	14, 15	17,	8	15, 19		11	23,
XX0172 Neg Con 06-06-20-E03														X		
Ladders, Controls and QA Profiles are within established parameters																
Evaluate Ladders, Controls and QA Profiles																
Control: LADDERSANDCONTROLSCHECK_TABLE																

FIGURE 5.3 Example of a Check Control screen.

Check Allele Ordering confirms that the alleles are all in correct order. Any allele not in correct order will be highlighted pink.

	D8S1179	D13S317	VWA	TPOX	D18S51	D5S818	FGA	D21S11	D7S820	CSF1PO	D3S1358	TH01	D16S539
ID_2_GH_1.0ng_R1.1_V1.1_009_1	12, 14, 15	11, 12, 13	15, 16, 17	9, 11, 12	12, 13, 16	11, 12	20, 21, 26	29, 30.2, 31.2	10, 10	10, 11, 13	14, 15	9.3, 9.3	9, 12
ID_2_GH_1.0ng_R1.4_V1.1_005_1	12, 14, 15	11, 12, 13	15, 16, 17	9, 11, 12	12, 13, 16	11, 12	20, 21, 26	29, 30.2, 31.2	10, 10	10, 11, 13	14, 15	9.3, 9.3	9, 12
ID_2_GH_1.0ng_R1.9_V1.2_003_1	12, 14, 15	11, 12, 13	15, 16, 17	9, 11, 12	12, 13	11, 12	20, 21, 26	29, 31.2, 30.2	10, 10	10, 11, 13	14, 14, 15	9.3, 9.3	9, 12
ID_3_EGJ_2.0ng_R1.1.2_V1.1_006_1	12, 13, 14, 15	11, 12, 13	14, 16, 17, 18	8, 9, 10, 12	12, 14, 16, 18, 19	11, 12	20, 21, 25, 26	28, 30, 30.2, 31, 29	8, 10, 12	11, 12, 13, 10.3	14, 15, 16, 17, 18	9, 9.3	9, 10, 11, 12
ID_3_EGJ_3.0ng_R2.3.1_V1.1_010_1	12, 13, 14, 15	11, 12, 13	14, 16, 17, 18	8, 9, 10, 12	12, 14, 16, 18, 19	12, 12, 11	20, 21, 25, 26	28, 29, 30, 30.2, 31	8, 10, 12	11, 13, 12	14, 15, 16, 17, 18	9, 9.3	9, 11, 12, 10
ID_Ladder_014_1													

Allele ordering needs review.

FIGURE 5.4 Example of a Check Control screen.

Stutter checks for potential stutter. It confirms that the threshold is met locus by locus. If the threshold is not met, it will indicate that there is potential stutter. The stutters settings are set up under the quality control subsection of the Interpretation section in the ArmedXpert Options Menu. All alleles that should be evaluated for stutter are highlighted in pink.

	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
IQS2904_Known standard of suspect	10, 13	30, 30	7, 12	10, 12	15, 15	9, 9.3	11, 13	9, 12	19, 19	13, 13	-A.17, 17, -A.18, 18	11, 11	14, 17	X, Y	11, 11	23, 24
IQS2904_Known standard of victim	14, 14	29, 36	9, 10	7, 7	15, 17	9, 9	12, 13	13, 13	18, 19	13, 14	15, 16	8, 11	14, 18	X, X	11, 12	22, 22
IQS2904_No stutter filter	10, 13, 14	28, 29, 30, 35, 36	7, 9, 10, 12	7, 7	14, 15, 16, 17	9, 9	11, 12, 13	12, 13	18, 19	12, 13, 14	15, 16	8, 11	14, 17, 18	X, X	11, 12	22, 23, 24
IQS2904_Stutter filter applied	10, 14	29, 30, 36	7, 9, 10, 12	7, 7	15, 17	9, 9	11, 12, 13	13, 13	18, 19	13, 14	15, 16	8, 11	14, 17, 18	X, X	11, 12	22, 23, 24

Evaluate for stutter

FIGURE 5.5 Example of a Check Control screen.

Finally, **RFUs** indicates all RFU's that are below scale, off scale, or both. The RFU's settings are set up under the Quality Control Section in the ArmedXpert Options Menu. The alleles with RFUs below scale are highlighted pink and all that are off scale are highlighted yellow.

	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
Ladder Identifiler 06-06-20-F03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
Ladder Identifiler 06-06-20-A03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
Ladder Identifiler 06-06-20-A01	8, 9, 10,	FALSE, 24,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0161.1 QA003F1 06-06-20-H01	13, 14	28, 31.1	11, 12	10	14, 18	6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12	X, Y	12, 13	22, 26
XX0162.1 Reag BlankF1 06-06-20-B02																22
XX0162.2 Reag BlankF2 06-06-20-C02																
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0165 QA004 QA 06-06-20-E02	12	29, 31	9, 12	9, 10	14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 18	X, Y	11, 13	19, 23
XX0166 Reag Blank 06-06-20-F02																
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X	12	22, 24
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0169 QA026 QA 06-06-20-B03	12, 15	30	11, 12	11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15, 18	8	13	X, Y	11	20
XX0170 Reag Blank 06-06-20-C03																
XX0171 Pos Con 06-06-20-D03	13	30	10, 11.1	10, 12	14, 15	8, 9.3	11	11, 12	19, 23	14, 15	17, 18	8	15, 19		11	23, 24
XX0172 Neg Con 06-06-20-E03														X		
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25

RFUs are off scale (above 1000)
RFUs are below scale (below 300)
RFUs are both below and off scale (below 300)

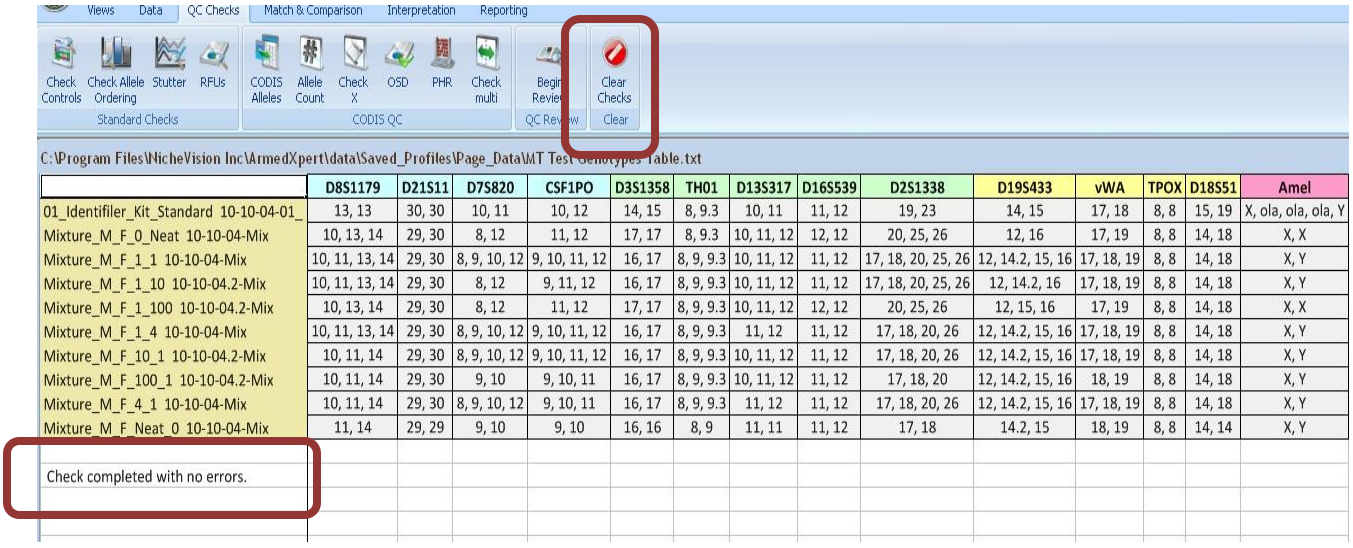
FIGURE 5.6 Example of a RFUs Check screen.

CODIS QC

There are six types of CODIS Quality Control checks. They are CODIS Alleles, Allele Count, Check X, OSD, PHR, and Check multi. These quality control checks will evaluate the samples on the active sample table to allow you to know if they are ready to be accepted by CODIS.

FIGURE 5.7 CODIS QC Commands

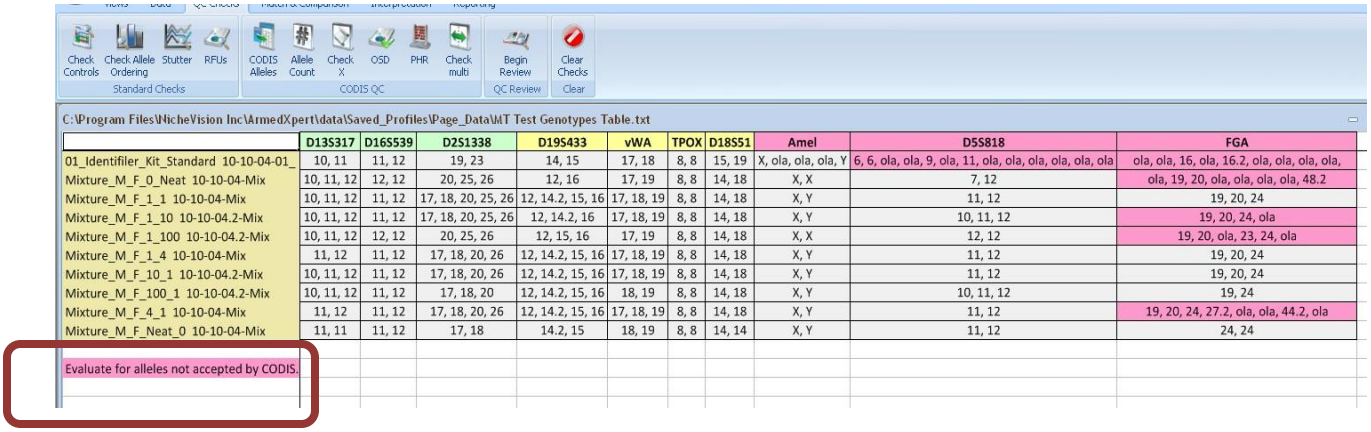
To perform the checks, click on each type of CODIS quality control check you wish to perform. After clicking each command, the check will be performed and your page will display the results of the check. All errors will be highlighted. A key will be displayed on the page to explain what the highlighted colors mean for the check being done. If no errors are found on the check, a message will appear at the bottom of the page that states, "Check completed with no errors." as shown below in example 5.8. Click on the **Clear Checks** button after each check to clear the check results on the page.



	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel
01_Identifiler_Kit_Standard 10-10-04-01_	13, 13	30, 30	10, 11	10, 12	14, 15	8, 9.3	10, 11	11, 12	19, 23	14, 15	17, 18	8, 8	15, 19	X, ola, ola, ola, Y
Mixture_M_F_0_Neat 10-10-04-Mix	10, 13, 14	29, 30	8, 12	11, 12	17, 17	8, 9.3	10, 11, 12	12, 12	20, 25, 26	12, 16	17, 19	8, 8	14, 18	X, X
Mixture_M_F_1_1 10-10-04-Mix	10, 11, 13, 14	29, 30	8, 9, 10, 12	9, 10, 11, 12	16, 17	8, 9, 9.3	10, 11, 12	11, 12	17, 18, 20, 25, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_1_10 10-10-04.2-Mix	10, 11, 13, 14	29, 30	8, 12	9, 11, 12	16, 17	8, 9, 9.3	10, 11, 12	11, 12	17, 18, 20, 25, 26	12, 14.2, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_1_100 10-10-04.2-Mix	10, 13, 14	29, 30	8, 12	11, 12	17, 17	8, 9, 9.3	10, 11, 12	12, 12	20, 25, 26	12, 15, 16	17, 19	8, 8	14, 18	X, X
Mixture_M_F_1_4 10-10-04-Mix	10, 11, 13, 14	29, 30	8, 9, 10, 12	9, 10, 11, 12	16, 17	8, 9, 9.3	11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_10_1 10-10-04.2-Mix	10, 11, 14	29, 30	8, 9, 10, 12	9, 10, 11, 12	16, 17	8, 9, 9.3	10, 11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_100_1 10-10-04.2-Mix	10, 11, 14	29, 30	9, 10	9, 10, 11	16, 17	8, 9, 9.3	10, 11, 12	11, 12	17, 18, 20	12, 14.2, 15, 16	18, 19	8, 8	14, 18	X, Y
Mixture_M_F_4_1 10-10-04-Mix	10, 11, 14	29, 30	8, 9, 10, 12	9, 10, 11	16, 17	8, 9, 9.3	11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_Neat_0 10-10-04-Mix	11, 14	29, 29	9, 10	9, 10	16, 16	8, 9	11, 11	11, 12	17, 18	14.2, 15	18, 19	8, 8	14, 14	X, Y

FIGURE 5.8 Example of a Check completed with no errors screen.

The **CODIS Alleles** command checks the alleles at each locus against CODIS formatting rules. It highlights in pink any sample's locus that contains alleles not accepted by CODIS.



	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
01_Identifiler_Kit_Standard 10-10-04-01_	10, 11	11, 12	19, 23	14, 15	17, 18	8, 8	15, 19	X, ola, ola, ola, Y	6, 6, ola, ola, 9, ola, 11, ola, ola, ola, ola, ola, ola	ola, ola, 16, ola, 16.2, ola, ola, ola, ola,
Mixture_M_F_0_Neat 10-10-04-Mix	10, 11, 12	12, 12	20, 25, 26	12, 16	17, 19	8, 8	14, 18	X, X	7, 12	ola, 19, 20, ola, ola, ola, ola, 48.2
Mixture_M_F_1_1 10-10-04-Mix	10, 11, 12	11, 12	17, 18, 20, 25, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y	11, 12	19, 20, 24
Mixture_M_F_1_10 10-10-04.2-Mix	10, 11, 12	11, 12	17, 18, 20, 25, 26	12, 14.2, 16	17, 18, 19	8, 8	14, 18	X, Y	10, 11, 12	19, 20, 24, ola
Mixture_M_F_1_100 10-10-04.2-Mix	10, 11, 12	12, 12	20, 25, 26	12, 15, 16	17, 19	8, 8	14, 18	X, X	12, 12	19, 20, ola, 23, 24, ola
Mixture_M_F_1_4 10-10-04-Mix	11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y	11, 12	19, 20, 24
Mixture_M_F_10_1 10-10-04.2-Mix	10, 11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y	11, 12	19, 20, 24
Mixture_M_F_100_1 10-10-04.2-Mix	10, 11, 12	11, 12	17, 18, 20	12, 14.2, 15, 16	18, 19	8, 8	14, 18	X, Y	10, 11, 12	19, 24
Mixture_M_F_4_1 10-10-04-Mix	11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y	11, 12	19, 20, 24, 27.2, ola, ola, 44.2, ola
Mixture_M_F_Neat_0 10-10-04-Mix	11, 11	11, 12	17, 18	14.2, 15	18, 19	8, 8	14, 14	X, Y	11, 12	24, 24

FIGURE 5.9 CODIS Alleles Result Example

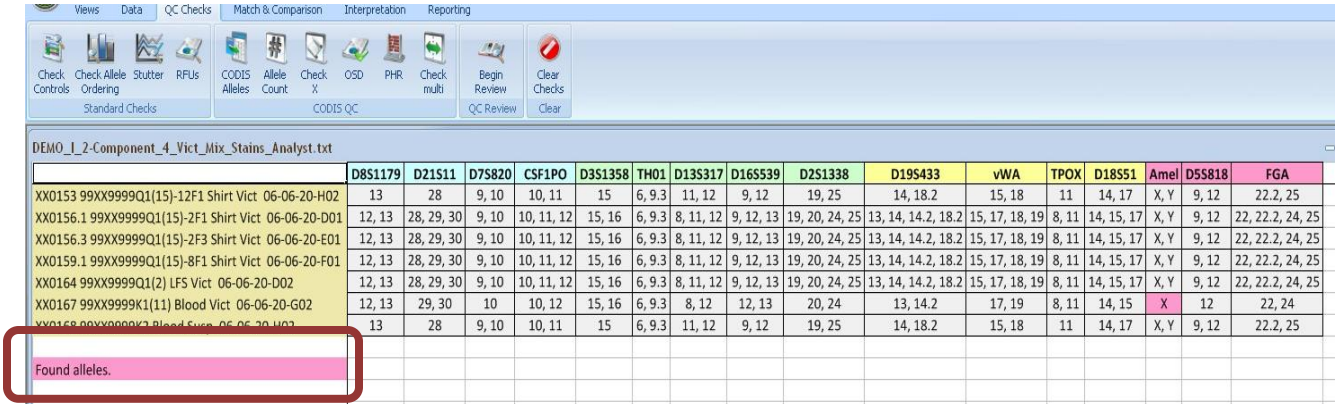
The **Allele Count** command highlights in pink any sample's locus that contains a number of alleles above the user-defined amount. An Allele Count window appears after clicking on the Allele Count command. Enter the maximum number of alleles that is accepted and click "Ok."

FIGURE 5.10 Allele Count Window

	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11, 11	14, 17	X, Y	9, 12	22.2, 25
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10, 10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X, X	12, 12	22, 24
	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11, 11	14, 17	X, Y	9, 12	22.2, 25

FIGURE 5.11 Allele Count Result Example

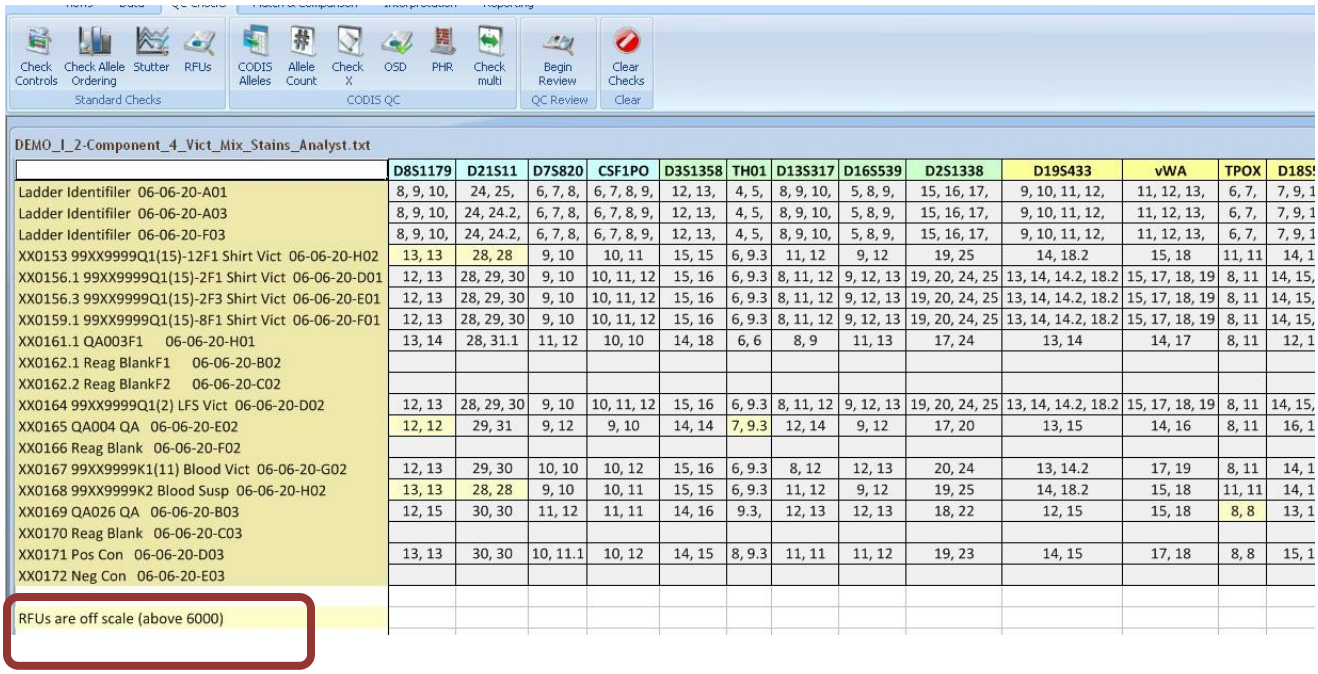
The **Check X** command checks for samples that only have a single X displayed at amelogenin. It will highlight in pink a sample's locus that contains a single X.



	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X	12	22, 24
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25

FIGURE 5.12 Check X Result Example

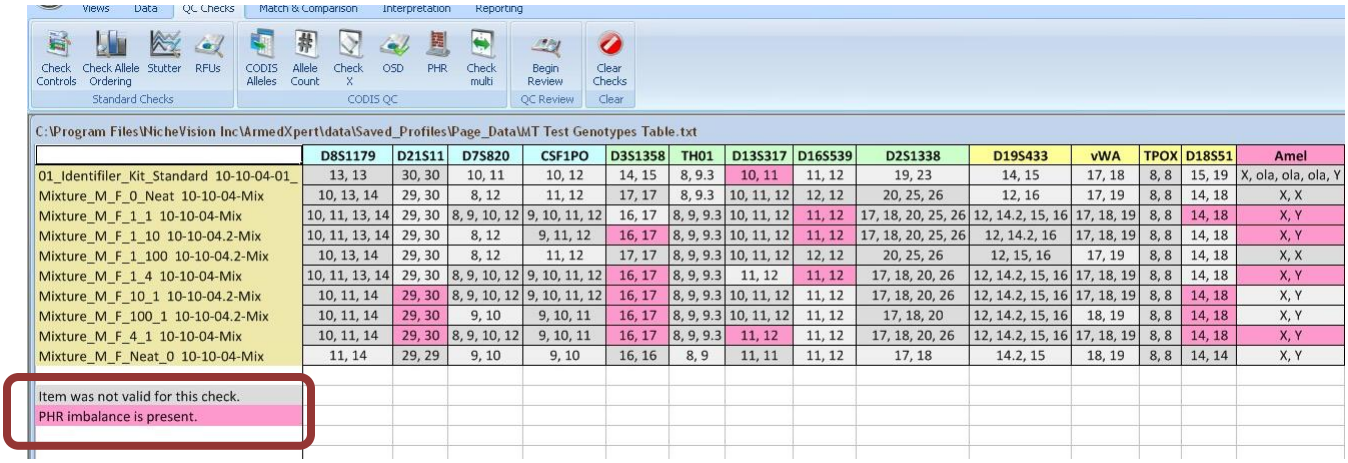
The **OSD** (off scale data) command evaluates the RFU's for off scale values. The OSDs settings are set up under the Quality Control Section in ArmedXpert Options Menu. It highlights in yellow any sample's locus that contains RFUs that are off scale.



	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S
Ladder Identifiler 06-06-20-A01	8, 9, 10,	24, 25,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 1
Ladder Identifiler 06-06-20-A03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 1
Ladder Identifiler 06-06-20-F03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 1
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11, 11	14, 1
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15,
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15,
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15,
XX0161.1 QA003F1 06-06-20-H01	13, 14	28, 31.1	11, 12	10, 10	14, 18	6, 6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12, 1
XX0162.1 Reag BlankF1 06-06-20-B02													
XX0162.2 Reag BlankF2 06-06-20-C02													
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15,
XX0165 QA004 QA 06-06-20-E02	12, 12	29, 31	9, 12	9, 10	14, 14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 1
XX0166 Reag Blank 06-06-20-F02													
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10, 10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 1
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11, 11	14, 1
XX0169 QA026 QA 06-06-20-B03	12, 15	30, 30	11, 12	11, 11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15, 18	8, 8	13, 1
XX0170 Reag Blank 06-06-20-C03													
XX0171 Pos Con 06-06-20-D03	13, 13	30, 30	10, 11.1	10, 12	14, 15	8, 9.3	11, 11	11, 12	19, 23	14, 15	17, 18	8, 8	15, 1
XX0172 Neg Con 06-06-20-E03													

FIGURE 5.13 OSD Result Example

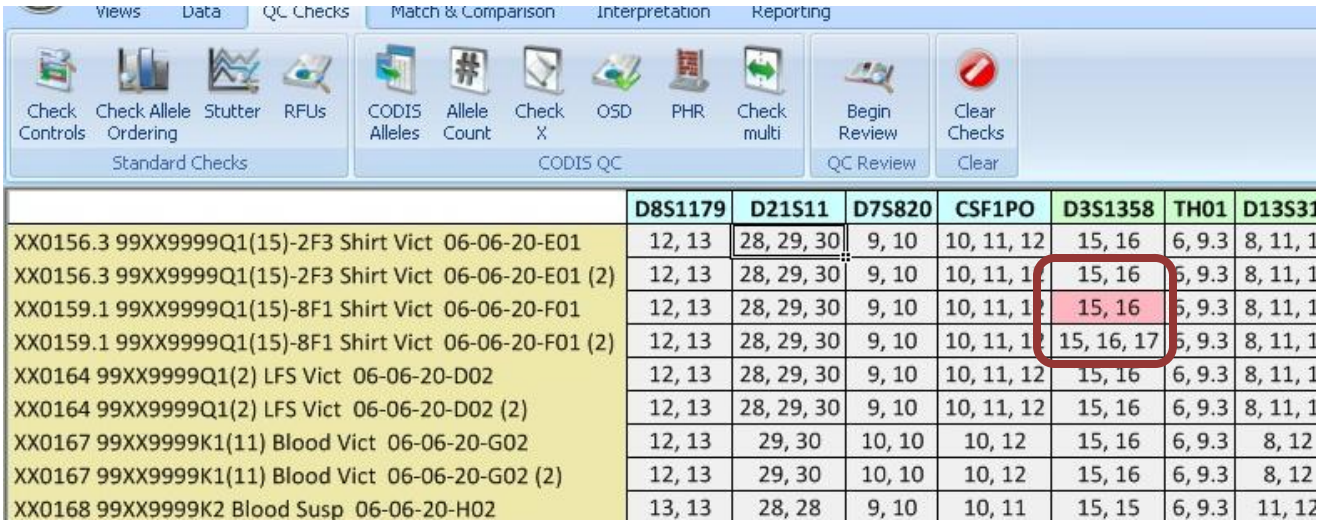
The **PHR** command evaluates peak height ratios to see that they meet the threshold. The PHR settings are set up under the Quality Control Section in ArmedXpert Options Menu. Any sample's locus that has a PHR imbalance is highlighted pink. Any sample's locus that is not valid for this check is highlighted dark grey.



	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel
01_Identifiler_Kit_Standard 10-10-04-01_	13, 13	30, 30	10, 11	10, 12	14, 15	8, 9.3	10, 11	11, 12	19, 23	14, 15	17, 18	8, 8	15, 19	X, ola, ola, ola, Y
Mixture_M_F_0_Neat 10-10-04-Mix	10, 13, 14	29, 30	8, 12	11, 12	17, 17	8, 9.3	10, 11, 12	12, 12	20, 25, 26	12, 16	17, 19	8, 8	14, 18	X, X
Mixture_M_F_1_1 10-10-04-Mix	10, 11, 13, 14	29, 30	8, 9, 10, 12	9, 10, 11, 12	16, 17	8, 9, 9.3	10, 11, 12	11, 12	17, 18, 20, 25, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_1_10 10-10-04.2-Mix	10, 11, 13, 14	29, 30	8, 12	9, 11, 12	16, 17	8, 9, 9.3	10, 11, 12	11, 12	17, 18, 20, 25, 26	12, 14.2, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_1_100 10-10-04.2-Mix	10, 13, 14	29, 30	8, 12	11, 12	17, 17	8, 9, 9.3	10, 11, 12	12, 12	20, 25, 26	12, 15, 16	17, 19	8, 8	14, 18	X, X
Mixture_M_F_1_4 10-10-04-Mix	10, 11, 13, 14	29, 30	8, 9, 10, 12	9, 10, 11, 12	16, 17	8, 9, 9.3	11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_10_1 10-10-04.2-Mix	10, 11, 14	29, 30	8, 9, 10, 12	9, 10, 11, 12	16, 17	8, 9, 9.3	10, 11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_100_1 10-10-04.2-Mix	10, 11, 14	29, 30	9, 10	9, 10, 11	16, 17	8, 9, 9.3	10, 11, 12	11, 12	17, 18, 20	12, 14.2, 15, 16	18, 19	8, 8	14, 18	X, Y
Mixture_M_F_4_1 10-10-04-Mix	10, 11, 14	29, 30	8, 9, 10, 12	9, 10, 11	16, 17	8, 9, 9.3	11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_Neat_0 10-10-04-Mix	11, 14	29, 29	9, 10	9, 10	16, 16	8, 9	11, 11	11, 12	17, 18	14.2, 15	18, 19	8, 8	14, 14	X, Y

FIGURE 5.14 PHR Result Example

The **Check Multi** command checks samples with identical names and confirms that they are identical at each locus. Any locus that is not identical is highlighted pink. For example, in Figure 5.15 below at D3S1358, alleles 15,16 are showing for XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01 Sample, but alleles 15,16,17 are showing for the identical sample right below it.



	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S31
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 1
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01 (2)	12, 13	28, 29, 30	9, 10	10, 11, 1	15, 16	6, 9.3	8, 11, 1
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 1
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01 (2)	12, 13	28, 29, 30	9, 10	10, 11, 1	15, 16, 17	6, 9.3	8, 11, 1
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 1
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02 (2)	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 1
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10, 10	10, 12	15, 16	6, 9.3	8, 12
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02 (2)	12, 13	29, 30	10, 10	10, 12	15, 16	6, 9.3	8, 12
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12

FIGURE 5.15 Check Multi Result Example

QC Review

The QC Review section only has one command. It is **Begin Review**. This command gives you detailed information of all the highlighted results shown during each of the checks. It explains why the locus was highlighted. After performing a check, click on the **Begin Review** command. This must be done before you click on the "Clear Checks" command. To move to the next or previous highlighted sample's locus, there are three different ways. You can click on the Prev or Next buttons, you can type a number directly in the number box to go directly to a certain number, or click the up and down arrow buttons next to the number box.

FIGURE 5.16 QC Review Moving Tools

Move to each highlighted result to obtain information about it. Each highlighted result is at a specific sample's locus, which will be outlined on the sample table when reviewing the result. Some of results have fixes that can be done, such as remove an allele during the stutter check review as shown below. Click on any fix that you would like to have done. Once you are finished with QC review window, click on the "Done" button.

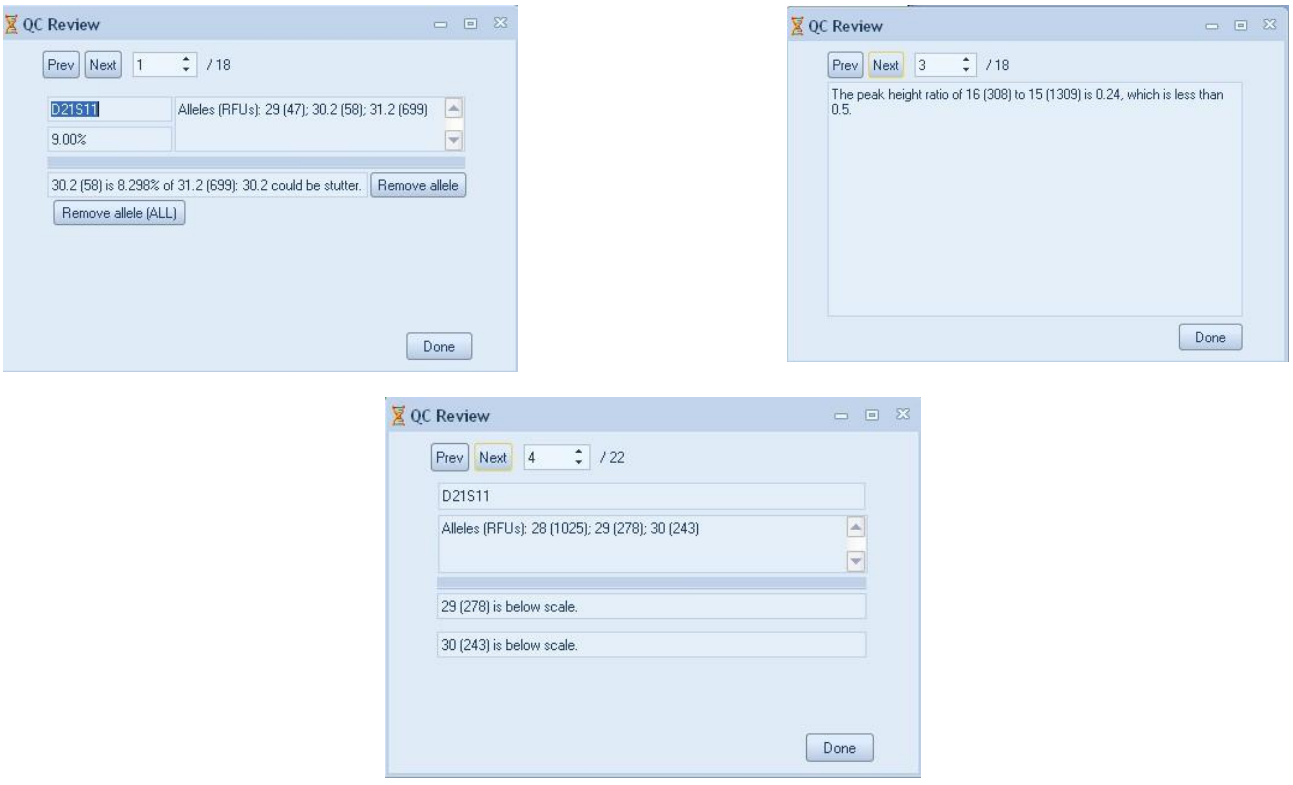


FIGURE 5.17 Example of QC Review Window different Check.

Chapter 6

Tab Four – Match & Comparison

The Match & Comparison tab is used to perform a match of a reference sample to other samples on your sample table or to compare one table to another table. There are two sections: **Samples** and **Sources**. The sample section allows you to match and compare one or more samples against a sample table. It also allows you to match and compare a sample against a profile. The source section allows you to compare one table against another.

FIGURE 6.1 March & Comparison Tab

Samples

The **Samples** section is used to compare reference sample(s) to other samples on any opened sample table. To start matching, you must first set a reference or multiple references. You can set any sample or samples as reference(s). Click on the Set Reference button. The select/pick via mouse window will appear as seen below in figure 6.2. The pick via mouse option will allow you to select the sample using your mouse. Clicking the ▼arrow will provide a drop down list of all available samples from which you can select the appropriate sample. To select more than one sample as references, click on the Pick via mouse button and click the Ctrl button on your keyboard. Then select samples with your mouse while keeping the Ctrl button pressed down. Once all samples have been chosen, release the Ctrl button.

FIGURE 6.2 Set Reference Button

Once you are finished selecting your reference(s), click on the sample table that you would like to match and compare. This does not have to be the same sample table as the selected reference(s). Then, click on one the four compare buttons; **Find Where Reference is Included**, **Find Included in the Reference**, **Find Foreign to Reference**, or **Find Where References Includes Foreign**.

To clear the match from the page, click the **Clear Match** button. This also clears the reference from the page. **Note:** If your reference is on a separate page from your sample table you are comparing, you have click on the Clear Match button for each page. The Clear Match button on clears a match for the front page.

FIGURE 6.3 Clear Match button

All matches are highlighted in a different color based on type of match. There is a key on the bottom of the page. In addition, shown highlighted in blue on the bottom of the page is the selected reference unless the "List match & compare reference at top" is selected as an option. If selected, the reference(s) is displayed at the top of the page instead of the bottom. To the right of the samples are total columns. These columns give a total number of each type of matches. You can also do automatic sorts for these columns, by enabling the correct default sort. These options are selected by going to the ArmedXpert options menu as explained in Chapter 2.

DEMO_I_2-Component_4_Vict_Mix_Stains_Analyst.txt

	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
XX0168 99XX9999K2 Blood Susp 06-06-20-H02 [1 Refere	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25

FIGURE 6.4 Reference displayed at the top of the page option

Note: There are two additional quick ways to choose your reference. You can also click on the appropriate sample that you want to set as a reference and hit the F1 key. This will automatically highlight the sample you are on and start the "Find Where Reference is Included" comparison. You can also just select with your mouse the sample(s) that you would like to set as the reference, then click one of the compare buttons. These two only work if the reference is on the same sample table as the one that you want to match and compare to.

Find Where Reference is Included is used to find loci that include the reference. All loci that contain an exact match to the reference are highlighted orange. All loci that contain the reference and additional allele(s) are highlighted yellow.

	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA	Ex.+Incl.	Ex.	Incl.	Not Incl
Ladder Identifiler 06-06-20-A01	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	14	1	13	0
Ladder Identifiler 06-06-20-A03	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	14	1	13	0
Ladder Identifiler 06-06-20-F03	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	14	1	13	0
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25	16	16	0	0
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	16	4	12	0
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	16	4	12	0
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	16	4	12	0
XX0161.1 QA003F1 06-06-20-H01	11, 12	10	14, 18	6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12	X, Y	12, 13	22, 26	4	1	3	0
XX0162.1 Reag BlankF1 06-06-20-B02														22				
XX0162.2 Reag BlankF2 06-06-20-C02																		
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	16	4	12	0
XX0165 QA004 QA 06-06-20-E02	9, 12	9, 10	14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 18	X, Y	11, 13	19, 23	3	2	1	0
XX0166 Reag Blank 06-06-20-F02																		
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X	12	22, 24	4	1	3	0
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25	16	16	0	0
XX0169 QA026 QA 06-06-20-B03	11, 12	11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15, 18	8	13	X, Y	11	20	2	2	0	0
XX0170 Reag Blank 06-06-20-C03																		
XX0171 Pos Con 06-06-20-D03	10, 11.1	10, 12	14, 15	8, 9.3	11	11, 12	19, 23	14, 15	17, 18	8	15, 19		11	23, 24	2	1	1	0
XX0172 Neg Con 06-06-20-E03												X						
XX0168 99XX9999K2 Blood Susp 06-06-20-H02 [1 Refere	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25				
Exact match																		
Included																		

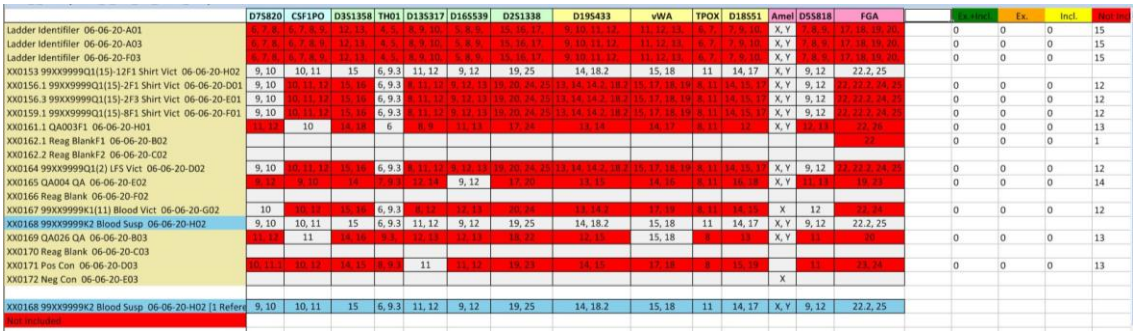
FIGURE 6.5 Find Where Reference is Included Example

Find Included in the Reference is used to find loci that are included in the reference. All loci that contain an exact match to the reference are highlighted orange. All loci that contain the part of the reference and no other allele(s) are highlighted yellow.

	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA	Ex.+Incl.	Ex.	Incl.	Not Incl
Ladder Identifiler 06-06-20-A01	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	1	1	0	0
Ladder Identifiler 06-06-20-A03	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	1	1	0	0
Ladder Identifiler 06-06-20-F03	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	1	1	0	0
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25	16	16	0	0
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	4	4	0	0
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	4	4	0	0
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	4	4	0	0
XX0161.1 QA003F1 06-06-20-H01	11, 12	10	14, 18	6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12	X, Y	12, 13	22, 26	3	1	2	0
XX0162.1 Reag BlankF1 06-06-20-B02														22				
XX0162.2 Reag BlankF2 06-06-20-C02																		
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	4	4	0	0
XX0165 QA004 QA 06-06-20-E02	9, 12	9, 10	14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 18	X, Y	11, 13	19, 23	2	2	0	0
XX0166 Reag Blank 06-06-20-F02																		
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X	12	22, 24	4	1	3	0
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25	16	16	0	0
XX0169 QA026 QA 06-06-20-B03	11, 12	11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15, 18	8	13	X, Y	11	20	3	2	1	0
XX0170 Reag Blank 06-06-20-C03																		
XX0171 Pos Con 06-06-20-D03	10, 11.1	10, 12	14, 15	8, 9.3	11	11, 12	19, 23	14, 15	17, 18	8	15, 19		11	23, 24	2	1	1	0
XX0172 Neg Con 06-06-20-E03												X			1	0	1	0
XX0168 99XX9999K2 Blood Susp 06-06-20-H02 [1 Refere	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25				
Exact match																		
Included																		

FIGURE 6.6 Find Included in the Reference Example

Find Foreign to Reference is used to find loci that contain allele(s) that do not match the reference. All loci that contain allele(s) that do match the reference are highlighted red.



	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA	Ex.+Incl.	Ex.	Incl.	Not Incl
Ladder Identifiler 06-06-20-A01	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	0	0	0	15
Ladder Identifiler 06-06-20-A03	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	0	0	0	15
Ladder Identifiler 06-06-20-F03	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	0	0	0	15
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25				
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	0	0	0	12
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	0	0	0	12
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	0	0	0	12
XX0161.1 QA003F1 06-06-20-H01	11, 12	10	14, 18	6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12	X, Y	12, 13	22, 26	0	0	0	13
XX0162.1 Reag BlankF1 06-06-20-B02														22	0	0	0	1
XX0162.2 Reag BlankF2 06-06-20-C02																		
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	0	0	0	12
XX0165 QA004 QA 06-06-20-E02	9, 12	9, 10	14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 18	X, Y	11, 13	19, 23	0	0	0	14
XX0166 Reag Blank 06-06-20-F02																		
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X	12	22, 24	0	0	0	12
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25				
XX0169 QA026 QA 06-06-20-B03	11, 12	11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15, 18	8	13	X, Y	11	20	0	0	0	13
XX0170 Reag Blank 06-06-20-C03																		
XX0171 Pos Con 06-06-20-D03	10, 11.1	10, 12	14, 15	8, 9.3	11	11, 12	19, 23	14, 15	17, 18	8	15, 19		11	23, 24	0	0	0	13
XX0172 Neg Con 06-06-20-E03												X						
XX0168 99XX9999K2 Blood Susp 06-06-20-H02 [1 Refere	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25				
Not Included																		

FIGURE 6.7 Find Foreign to Reference Example

Find Where Reference Includes Foreign is used to find loci that do not contain the reference. All loci that do not contain the reference are highlighted red.

	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA		Ex. Incl.	Ex.	Incl.	Not Incl
Ladder Identifiler 06-06-20-A01	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,		0	0	0	2
Ladder Identifiler 06-06-20-A03	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,		0	0	0	2
Ladder Identifiler 06-06-20-F03	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,		0	0	0	2
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25					
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25					
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25					
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25					
XX0161.1 QA003F1 06-06-20-H01	11, 12	12	14, 18	6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12	X, Y	12, 13	22, 26		0	0	0	12
XX0162.1 Reag BlankF1 06-06-20-B02														22		0	0	0	1
XX0162.2 Reag BlankF2 06-06-20-C02																			
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25					
XX0165 QA004 QA 06-06-20-E02	9, 12	9, 10	14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 18	X, Y	11, 13	19, 23		0	0	0	13
XX0166 Reag Blank 06-06-20-F02																			
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X	12	22, 24		0	0	0	12
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25					
XX0169 QA026 QA 06-06-20-B03	11, 12	11	14, 16	9.3	12, 13	12, 13	18, 22	12, 15	15, 18	8	13	X, Y	11	20		0	0	0	14
XX0170 Reag Blank 06-06-20-C03																			
XX0171 Pos Con 06-06-20-D03	10, 11	10, 12	14, 15	9.3	11	11, 12	19, 23	14, 15	17, 18	8	15, 19		11	23, 24		0	0	0	13
XX0172 Neg Con 06-06-20-E03												X				0	0	0	1
XX0168 99XX9999K2 Blood Susp 06-06-20-H02 [1 Refere	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25					
Not included																			

FIGURE 6.8 Find Where Reference Includes Foreign Example

The "**Match & Compare Profiles**" button compares profiles in your database against a sample on an open sample table. To use this feature, click on the "Match & Compare Profiles" button. Click on the box to the left of the profile that you would like to compare to the sample. Then click either the "Find Where Reference is Included" or "Find included in the Reference." The select/pick via mouse window will appear to select the sample you would like to compare to your profiles. The pick via mouse option will allow you to select the sample using your mouse. Clicking the ▼arrow will provide a drop down list of all available samples from which you can select the appropriate sample.

FIGURE 6.9 Match & Compare Profiles Window

The profile table will open. All locus cells will be highlighted based on the results. The Key is found on the bottom of the page and to the right of the table.

Profiles

	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA	Ex.+Incl.	Ex.
XX0156.1 9	12, 13	28, 29, 30	9, 10	10, 11,	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20,	13, 14,	15,	8, 11	14, 15,	X, Y	9, 12	22,		
SD060	11, 13	28, 30	9, 10	11	16, 17	6, 9.3	9, 11	11, 13	17, 25	14	15, 17	8, 11	15, 17	X, Y	11, 12	19, 21	4	4
SD074	10, 13	29, 30	9, 10	11	17, 18	6, 9.3	12	11, 14	18, 21	12, 13	16	8, 11	15	X, Y	10, 11	19, 22	4	4
SD094	9, 11	30, 31.2	12	12	15, 16	6, 9.3	12	11, 12	18, 20	14	14, 18	8, 11	15	X, Y	12, 13	24, 25	4	4
SD108	9, 11	30, 31.2	12	12	15, 16	6, 9.3	12	11, 12	18, 20	14	14, 18	8, 11	15	X, Y	12, 13	24, 25	4	4
SD125	9, 11	30, 31.2	12	12	15, 16	6, 9.3	12	11, 12	18, 20	14	14, 18	8, 11	15	X, Y	12, 13	24, 25	4	4
SD069	12, 13	29, 30	9	10, 11	15, 17	6, 9.3	12	10, 11	17, 18	14, 15	17, 19	8, 11	12, 13	X	9, 11	20, 25	3	3
SD082	9, 14	29.1, 33.3	9, 10	11, 14	14	9, 10	10, 12	10, 13	16, 17	8	15, 17	8, 11	13, 20	X, Y	11, 13	19, 23	3	3
SD087	14	28, 31	9, 10	10, 12	14	6	8, 9	11, 12	19, 25	12, 13	18, 19	8, 11	14, 15	X, Y	11, 13	19, 23	3	3
SD090	14, 16	29, 30	11, 12	11, 12	15, 16	6, 7	10, 12	12	17, 20	12, 13	16, 19	8, 11	14, 22	X, Y	13	20, 24	3	3
SD096	14	32.2	9, 10	11, 12	15, 16	9.3	10, 11	9, 12	17, 22	13, 14	17, 19	9, 11	16	X, Y	11, 12	25	3	3
SD099	10, 12	28, 32.2	9, 10	10, 12	15, 16	7, 9.3	11, 12	11, 12	18, 19	14, 16	18, 19	9, 11	14, 19	X, Y	10, 11	20, 24	3	3
SD103	12, 13	30	9, 10	11	14, 16	6, 9.3	8, 9	11, 12	17, 24	14, 15	16, 17	9, 12	12, 16	X	12, 13	23.2, 24	3	3
SD106	12, 13	30, 32.2	8, 13	10, 11	15, 16	9, 9.3	11, 13	12	18, 20	12, 14	16, 17	8, 11	13	X	11, 12	20, 21	3	3
SD110	14	32.2	9, 10	11, 12	15, 16	9.3	10, 11	9, 12	17, 22	13, 14	17, 19	9, 11	16	X, Y	11, 12	25	3	3
SD115	10, 12	28, 32.2	9, 10	10, 12	15, 16	7, 9.3	11, 12	11, 12	18, 19	14, 16	18, 19	9, 11	14, 19	X, Y	10, 11	20, 24	3	3
SD127	14	32.2	9, 10	11, 12	15, 16	9.3	10, 11	9, 12	17, 22	13, 14	17, 19	9, 11	16	X, Y	11, 12	25	3	3
SD130	10, 12	28, 32.2	9, 10	10, 12	15, 16	7, 9.3	11, 12	11, 12	18, 19	14, 16	18, 19	9, 11	14, 19	X, Y	10, 11	20, 24	3	3
SD045	14	29	11	12	16, 18	7, 9.3	12	9, 11	17, 24	12, 14	14, 16	8, 11	13, 14	X, Y	12, 13	20, 25	2	2
SD047	14, 15	28, 30.2	10, 12	10, 11	15, 16	6, 9.3	11	11	17, 18	12, 14	15, 17	11	15	X	12, 13	19, 22	2	2
SD051	12, 14	24.2, 28	10	9, 11	15, 16	9, 9.3	11	11, 12	17, 20	15	17, 19	11, 12	14, 15	X, Y	12, 13	21, 23	2	2
SD052	12, 15	28, 30	9, 10	10.3, 12	15	7, 9.3	11, 12	11, 13	18, 20	13, 15	17	8, 11	18, 19	X	11	22, 24	2	2
SD053	11, 13	29, 30	10, 11	10, 11	15, 16	7, 9.3	8	9, 13	20, 25	13, 14	15, 16	11, 12	14, 15	X, Y	11, 12	19, 20	2	2
SD054	11	28, 33.2	11	10, 12	15	7, 9	11, 12	11, 12	20	14, 15	17, 18	8, 11	15, 17	X, Y	11	20	2	2
SD055	12, 13	31.2, 32	9, 10	10, 12	16, 17	7	11, 13	9, 11	24, 25	14	16	9, 10	13, 14	X	11, 12	20	2	2
SD058	12, 13	28, 30	10, 11	10, 11	17	9.3	8, 11	11, 12	17, 19	14, 15	17, 18	8	14, 20	X, Y	11, 12	21, 28	2	2
SD059	11, 16	29, 30	10, 11	11, 12	16, 17	9.3	9, 13	11, 12	16, 26	12, 14	14, 17	8, 11	12	X, Y	10, 12	20, 24	2	2
SD061	12, 14	30, 32.2	8, 10	12, 14	15, 17	9.3	11, 12	12	17, 26	12, 16	14, 17	8, 11	13, 15	X, Y	11	20, 23	2	2

FIGURE 6.10 Match & Compare Profiles Sample Table based on "Find Where Reference is Included"

	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA	Ex.+Incl.	Ex.	Incl.
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01 [1 Reference]	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25			
SD096	32.2	10	12	16	9.3	11	9, 12	17, 22	14	17, 19	9, 11	16	Y	12	25	11	0	11
SD110	32.2	10	12	16	9.3	11	9, 12	17, 22	14	17, 19	9, 11	16	Y	12	25	11	0	11
SD127	32.2	10	12	16	9.3	11	9, 12	17, 22	14	17, 19	9, 11	16	Y	12	25	11	0	11
SD053	30	11	11	16	7, 9.3	8	9, 13	20, 25	14	16	12	15	Y	12	20	10	0	10
SD056	28, 30	8, 10	10	15	7, 9.3	11	13	17, 23	13	16, 18	10	12, 16	X	12	22, 24	10	0	10
SD058	28, 30	11	11	17	9.3	8, 11	12	17, 19	15	18	8	14, 20	Y	12	21, 28	10	0	10
SD060	28, 30	10	11	17	6, 9.3	9, 11	11, 13	17, 25	14	15, 17	8, 11	15, 17	Y	12	19, 21	10	2	8
SD066	28, 30	8, 10	10	15	7, 9.3	11	13	17, 23	13	16, 18	10	12, 16	X	12	22, 24	10	0	10
SD086	28, 30	8, 10	10	15	7, 9.3	11	13	17, 23	13	16, 18	10	12, 16	X	12	22, 24	10	0	10
SD087	28, 31	10	10, 12	14	6	9	12	19, 25	13	19	8, 11	15	Y	11, 13	19, 23	10	1	9
SD094	30, 31.2	12	12	16	6, 9.3	12	12	18, 20	14	14, 18	8, 11	15	Y	13	25	10	2	8
SD102	30	10	10	14, 16	9, 9.3	11	9, 13	17, 20	15	15, 18	8, 11	13	X	12	23	10	1	9
SD108	30, 31.2	12	12	16	6, 9.3	12	12	18, 20	14	14, 18	8, 11	15	Y	13	25	10	2	8
SD118	30	10	10	14, 16	9, 9.3	11	9, 13	17, 20	15	15, 18	8, 11	13	X	12	23	10	1	9
SD121	29	8, 11	10, 12	17	7, 9	12	12	23, 26	15	17	8, 11	15	X	12	24	10	1	9
SD125	30, 31.2	12	12	16	6, 9.3	12	12	18, 20	14	14, 18	8, 11	15	Y	13	25	10	2	8
SD129	28	9, 12	12	18	9, 9.3	8, 11	12	20	13	18	9, 12	13, 18	X	12	22	10	0	10
SD133	30	10	10	14, 16	9, 9.3	11	9, 13	17, 20	15	15, 18	8, 11	13	X	12	23	10	1	9
SD054	28, 33.2	11	10, 12	15	7, 9	12	12	20	15	18	8, 11	15, 17	Y	11	20	9	1	8
SD064	28, 33.2	11	10, 12	15	7, 9	12	12	20	15	18	8, 11	15, 17	Y	11	20	9	1	8
SD069	30	9	11	15, 17	6, 9.3	12	11	18	15	17, 19	8, 11	13	X	9, 11	20, 25	9	2	7
SD074	30	10	11	18	6, 9.3	12	11, 14	18, 21	13	16	8, 11	15	Y	11	19, 22	9	2	7
SD083	30, 31.2	10	10, 12	15, 18	7	12	12	20, 25	15	15, 18	8	16	X	11	22	9	0	9
SD092	30	11	12	17	9, 9.3	11	11	17, 20	12, 15.2	15, 17	8, 11	14, 17	X	11, 13	22	9	1	8
SD112	31, 32.2	10	11	14, 16	7	8, 10	12	17, 21	14	17	8	15	Y	13	25	9	0	9
SD114	29	10	11	15, 17	9.3, 10	12, 14	12	17, 20	14	16, 19	8	12, 16	X	9, 12	25	9	1	8
SD119	30, 32.2	9	10, 12	15	7, 9	12	12	17, 24	14	17	8	16, 18	Y	13	26	9	0	9
SD047	28, 30.2	10, 12	11	16	6, 9.3	11	11	18	12, 14	15, 17	11	15	X	13	19, 22	8	1	7
SD049	30	13	12	15, 18	8	11, 14	9, 12	22, 25	13	18	8	19	Y	11	22	8	0	8
SD052	28, 30	10	10.3, 12	15	7, 9.3	12	11, 13	18, 20	13, 15	17	8, 11	19	X	11	22, 24	8	1	7
SD055	31.2, 32	10	10, 12	17	7	11, 13	9, 11	25	14	16	10	14	X	12	20	8	0	8
SD057	29	8, 10	12	16, 18	7, 10	11, 13	11	19, 24	13	17	8	12, 15	X	12	20, 23	8	0	8

FIGURE 6.11 Match & Compare Profiles Sample Table based on "Find Included in the Reference"

Sources

The **Sources** section allows you to compare one table with another. Select the table using the ▼arrow keys next to A: box and another table using the ▼arrow keys next to the B: box. Once tables are selected, click the **Compare Tables** button. The two tables will be compared and a screen will appear as shown in Figure 6.13 below. Any differences will be highlighted reddish. A color key is found at the bottom of page indicating which table is which.

➧ Note: This feature compares samples on one table with samples with the identical names on another table.

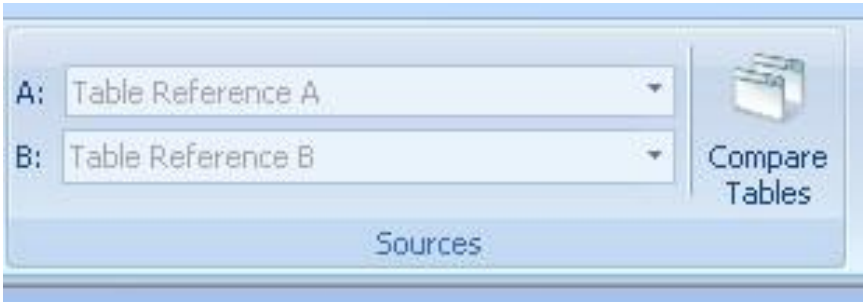


FIGURE 6.12 Sources Section

DEMO_I_2-Component_4_Vict_Mix_Stains_Analyst.txt vs. DEMO_I_2-Component_4_Vict_Mix_Stains_Review.txt

	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X	12	22, 24
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0169 QA026 QA 06-06-20-B03	12, 15	30	11, 12	11	14, 16	9.3, 10	12, 13	12, 13	18, 22	12, 15	15, 18	8	13	X, Y	11	20
XX0169 QA026 QA 06-06-20-B03	12, 15	30	11, 12	11	14, 16	9.3, 10	12, 13	12, 13	18, 22	12, 15	15, 18	8	13	X, Y	11	20
XX0170 Reag Blank 06-06-20-C03																
XX0170 Reag Blank 06-06-20-C03																
XX0171 Pos Con 06-06-20-D03	13	30	10, 11.1	10, 12	14, 15	8, 9.3	11	11, 12	19, 23	14, 15	17, 18	8	15, 19		11	23, 24
XX0171 Pos Con 06-06-20-D03	13	30	10, 11	10, 12	14, 15	8, 9.3	11	11, 12	19, 23	14, 15	17, 18	8	15, 19	X	11	23, 24
XX0172 Neg Con 06-06-20-E03														X		
XX0172 Neg Con 06-06-20-E03																
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25

Difference(s) at locus.
No difference(s) at locus.
DEMO_I_2-Component_4_Vict_Mix_Stains_Analyst.txt
DEMO_I_2-Component_4_Vict_Mix_Stains_Review.txt

FIGURE 6.13 Example of a Compare Table Report.

Chapter 7

Tab Five – Interpretation

The Interpretation tab is used to perform interpretation and frequency calculations of your samples. It has two main sections: **Mixture Interpretations** and **Frequency Calculations**. The mixture interpretation section contains the Mixture Interpretation tool. It allows Deconvolution of both two and three-person mixtures into individual DNA profiles. The frequency calculations section allows you to perform statistical analysis such as RMP and CPE/CPI.

FIGURE 7.1 Interpretation Tab

Mixture Interpretation

The **Mixture Interpretation** section is used to interpret mixtures for any selected sample. It gives you the information to aide you in making the appropriate calls. It lists all available combinations at each locus based on your settings. It keeps track of the proportions for each profile, as well as gives you a graphical visualization of the proportions as you choose each combination. The Mixture Interpretation tool can be used for a 2 or 3 contributor mixture. It allows you to set references and apply stutter when appropriate.

To start using the Mixture Interpretation Tool, click on the **Begin Mixture Interpretation** button. The Mixture Interpretation Window will appear as shown in Figure 7.2 below.

Shortcut: You can also open the Mixture Interpretation window, by holding down the "alt" button and clicking on any of the loci or the sample name for the sample you wish to interpret. The Mixture Interpretation window for that select sample at that locus will open. If you are on the sample name, the first locus is displayed. This enables you to skip the select sample step below.

Note: Do not close out of the Mixture Interpretation unless you have exported/saved or printed the reports you require to document your interpretation. If not, once you close out of the Mixture Interpretation tool all information will be lost.

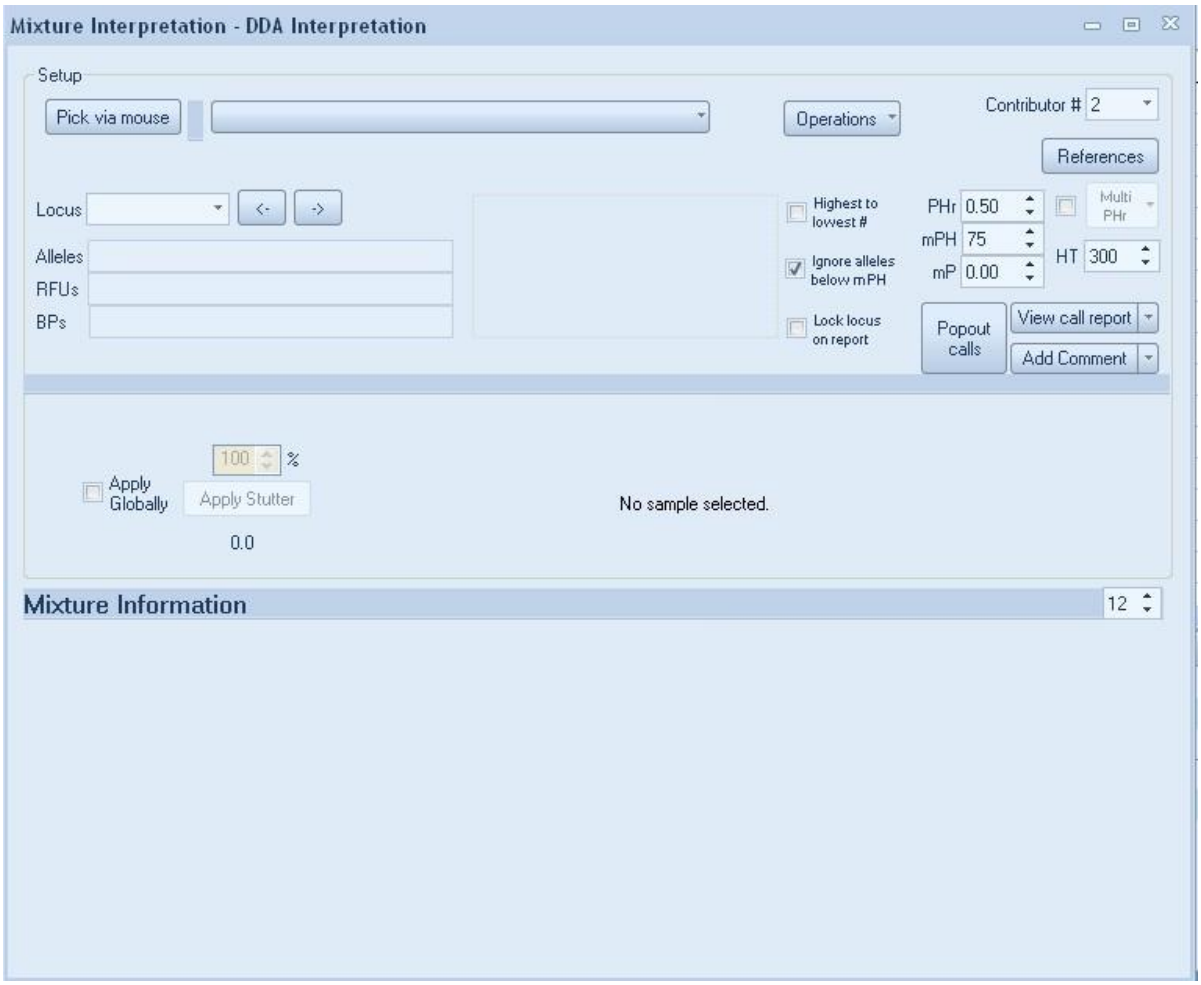


FIGURE 7.2 Mixture Interpretation Window

Select Sample: To perform mixture interpretations you must first select the sample you would like to interpret. Select your sample by either clicking on the **Pick via mouse** button and selecting the appropriate sample with your mouse or clicking the ▼arrow and selecting the appropriate sample from the drop down list of all available samples.

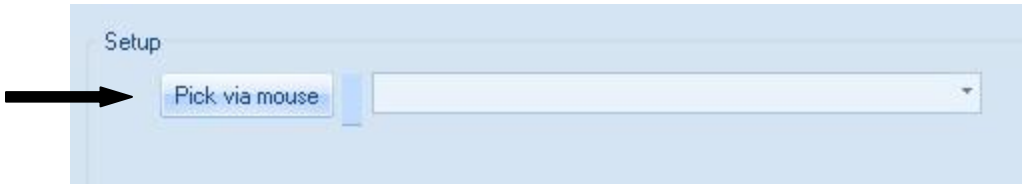


FIGURE 7.3 Select/Pick via mouse section.

Note: Once you select a sample, it cannot be changed. If you select the incorrect sample, close the mixture interpretation window and open a new one.

Once the sample is selected, the information will fill into the Mixture Interpretation Window. The selected sample and current locus will be highlighted on the sample table page. If you prefer for the selected sample to not be highlighted uncheck the box next to Highlight in Mixture Interpretation Section as shown below in figure 7.4.

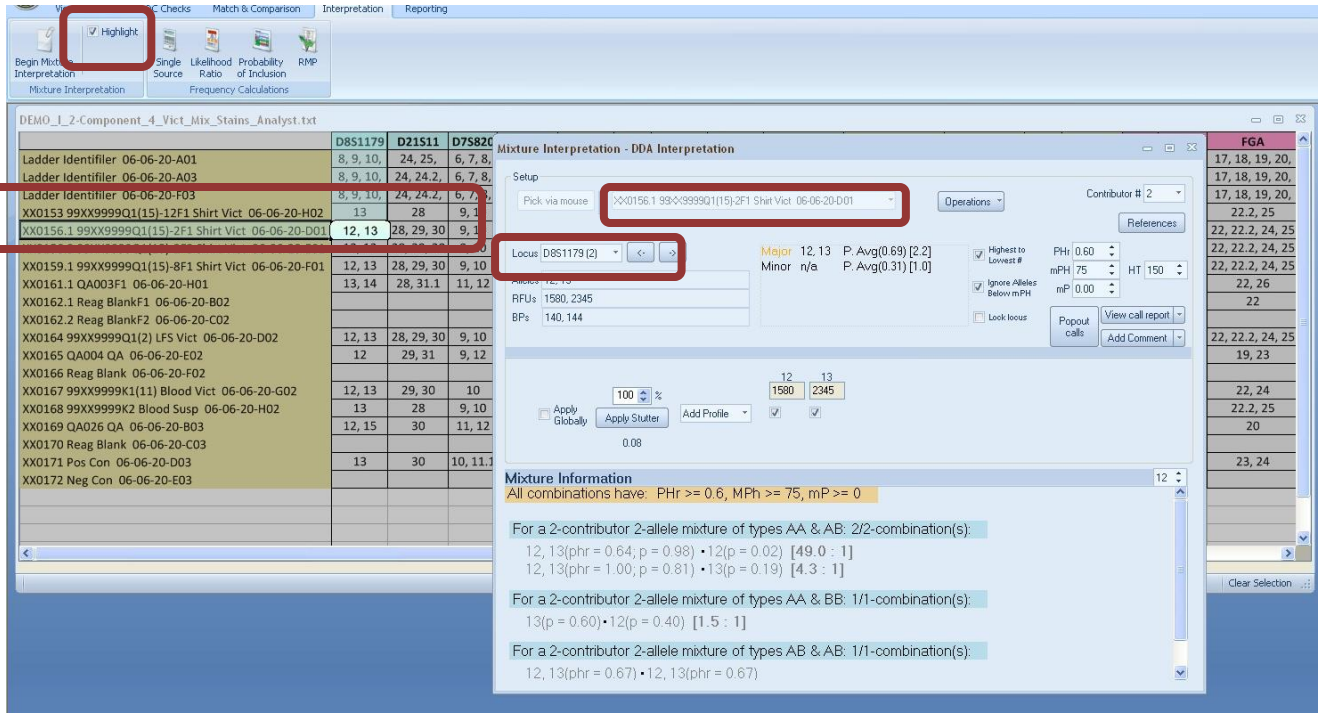

Highlight
Mixture Interpretation
Frequency Calculations
DEMO_I_2-Component_4_Vict_Mix_Stains_Analyst.txt
Mixture Interpretation - DDA Interpretation
Setup
Operations
References
Mixture Information
All combinations have: PHr >= 0.6, MPh >= 75, mP >= 0
For a 2-contributor 2-allele mixture of types AA & AB: 2/2-combination(s):
For a 2-contributor 2-allele mixture of types AA & BB: 1/1-combination(s):
For a 2-contributor 2-allele mixture of types AB & AB: 1/1-combination(s):

FIGURE 7.4 Example of screen once sample is selected.

Note: You can click on the highlighted cell and detailed information about that locus displays. Click on the detailed information to make it disappear. For Example in Figure 7.4 above, D8S1179 is highlighted. By clicking on the highlighted cell, the details for D8S1179 for the selected sample appear as shown below in Figure 7.5.

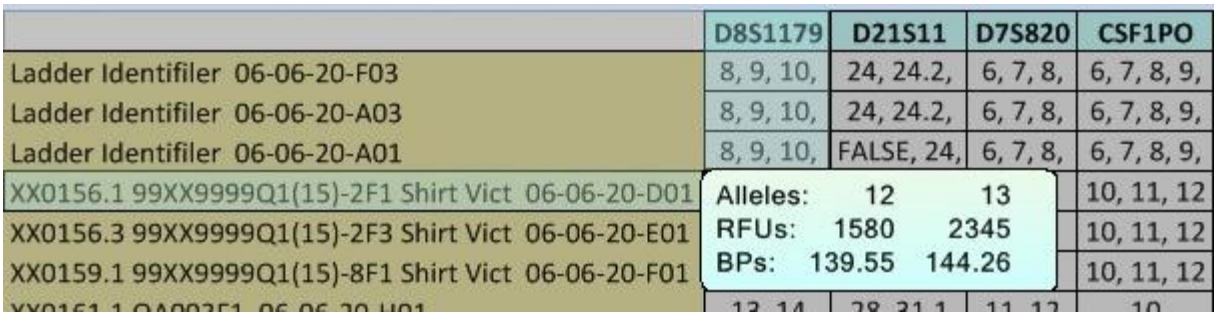


FIGURE 7.5 Detailed information displayed for highlighted locus.

Select number of Contributors: Select the number of contributors using the Contributor selection box in the upper right corner. The default number of contributor is 2. Click on the ▼arrow to change the number.

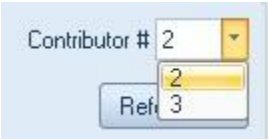


FIGURE 7.6 Number of contributors section.

Apply Reference(s) (optional): Next select any available references as permitted by your individual lab's mixture interpretation protocol. Click on the Reference button under the Contributor selection box and the References Selection box will appear. Click the ▼arrow in box 1. A drop down list of all your available samples will appear. Click the one you would like to set as Reference 1. Once you select a reference, the button next to the reference will change from Apply Reference to Remove Reference. To set more than one reference, proceed to Box 2, etc. and repeat the steps above to apply reference.

If you would like to remove a reference, click on the Remove Reference button. Once a referenced has been removed, the Remove Reference button turns back to the Apply Reference button. If you would like to add a reference that has been removed, click on the Apply Reference button and it will be added back as a reference.

FIGURE 7.7 Reference Selection Box.

All selected references will be highlighted blue on the sample table. The reference(s) will also be indicated as such, i.e. Ref 1, Ref 2 in the Mixture Interpretation area of the Mixture Interpretation Window. ➧ **Note:** Only combinations including the references will be shown in the Mixture information area.

FIGURE 7.8 Reference Selection Box.

Click on the **Auto-call references** button to automatically fill in the Reference 1 as Profile 1 and Reference 2 as Profile 2. This feature will allow you to only have to select a call for the unreferenced profile(s). **Note:** The Auto-call Reference feature is only auto populating the profile with the chosen reference. It is not taking into account any calculations or making any kind of interpretation.

The **List Foreign w/auto-call** option will list all alleles that are foreign to the reference on the View Call Report. Click on this to enable it, before you click on "Auto-call references" button.

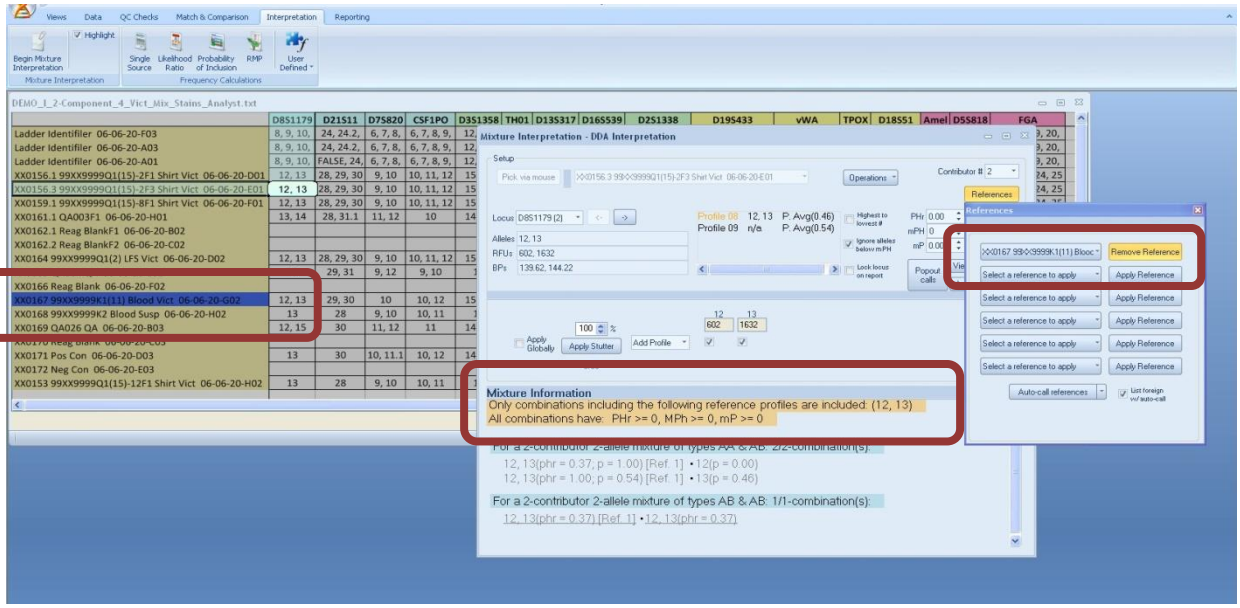

Mixture Interpretation - DDA Interpretation
Mixture Information
Only combinations including the following reference profiles are included: (12, 13)
All combinations have: PHr >= 0, MPh >= 0, mP >= 0
Auto-call references

FIGURE 7.9 Reference Selection Box with Reference Selected.

Settings: The Peak Height Ratio (PHr), Minimum Peak Height (mPH), Minimum Proportion (mP), Homozygote threshold (HT), and Stutter % are defaulted from the Mixture Interpretation Settings discussed in Chapter 2. You can change these values on the arrows next to each box to appropriate value in accordance with your individual lab validated thresholds. The changed value will remain active as long as the Mixture Interpretation Window stays open or you manually change it to another value. The default values set in your Mixture Interpretation Settings will appear when a new Mixture Interpretation Window is opened. The **Lock locus on report** option allows you to lock in the settings for the current locus, allowing settings to be changed without altering the final report.

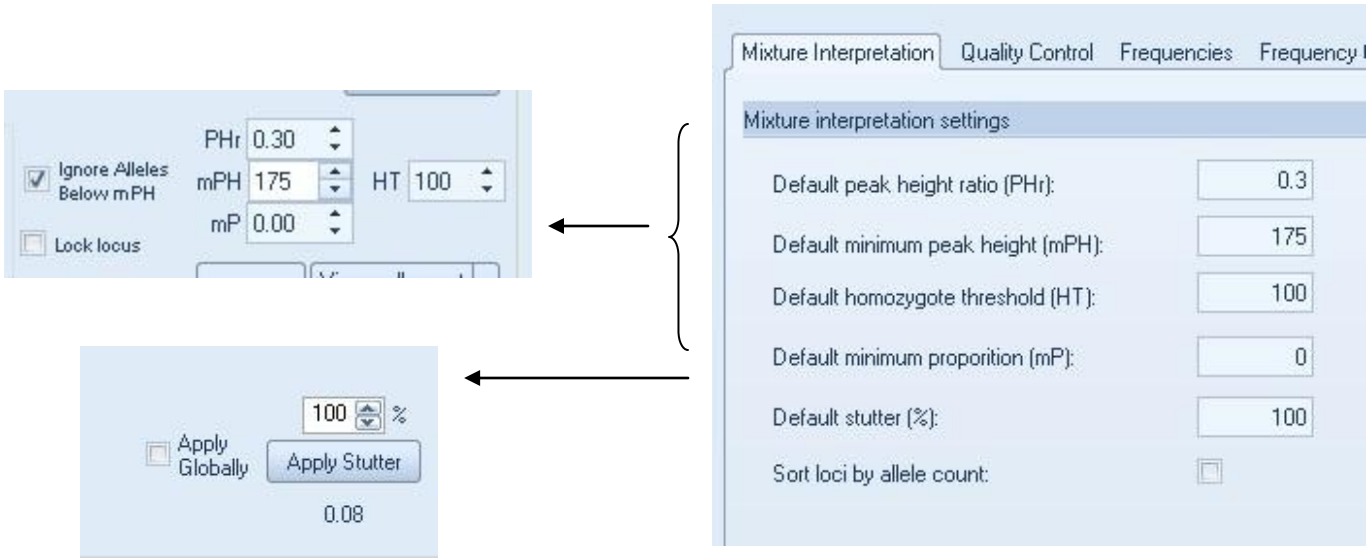


FIGURE 7.10 Mixture Interpretation Settings

The **Multi PHr** button allows you to set a PHr range. The PHR Range (peak height ratio) is for each separate locus. A default range can be set up using the ArmedXpert options window. See instruction in Chapter 2 under the Interpretation Quality Control options section to set up a default range. To activate this feature click the box left of the Multi Phr button to activate this feature.

Note: The default PHr value to the left of the Multi PHr will be used if the feature is not activated or no range is added to the Multi PHr feature.

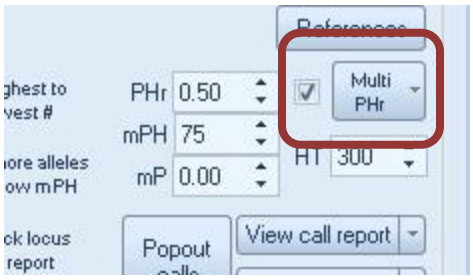


FIGURE 7.11 Multi PHr Button

If defaults have not been added or you want to change a range for a Locus, click on the "Multi PHr" button. The window show below will appear. You can type a Minimum rfu value with an appropriate Phr and/or a Maximum rfu value with an appropriate Phr. Click on the + button to add another range. To delete a range, click on the X next to the appropriate range.

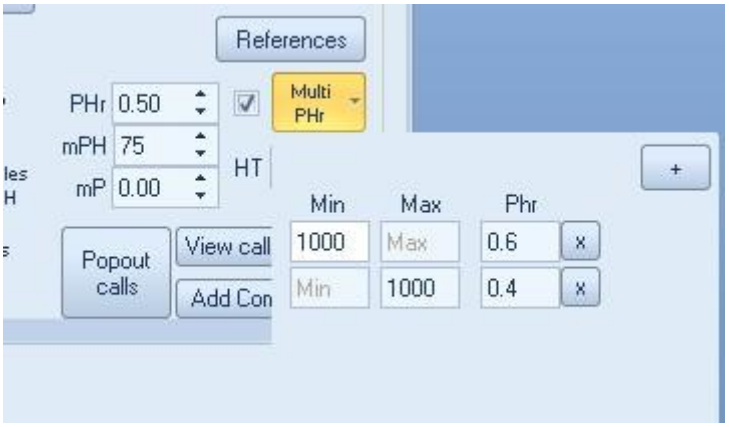


FIGURE 7.12 Multi PHr Window

The mixture information area will only show combinations that are equal to or greater than the settings and include the reference profiles if applied.

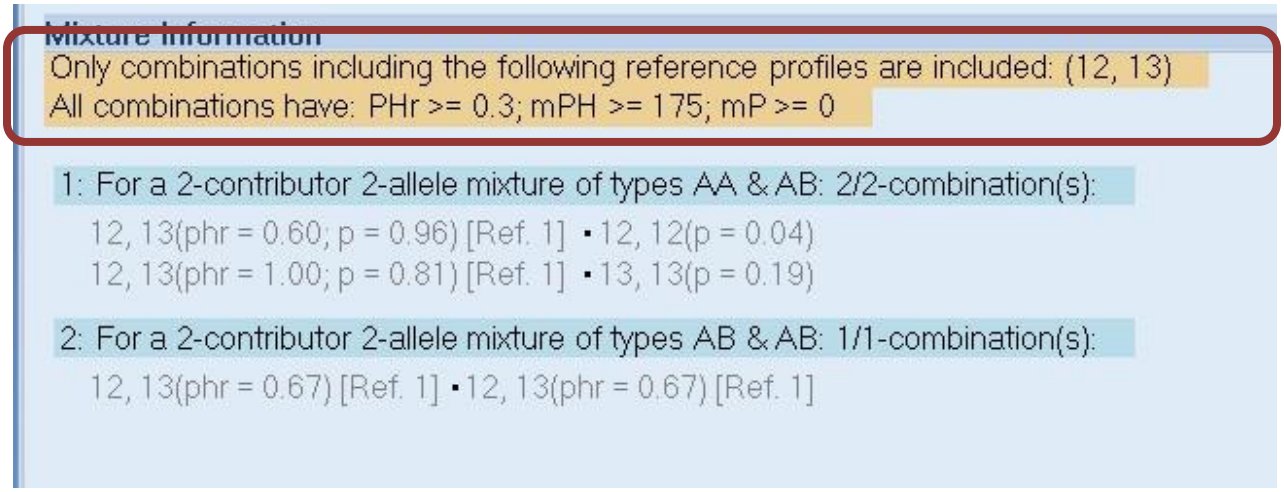

Mixture Information
Only combinations including the following reference profiles are included: (12, 13)
All combinations have: PHr >= 0.3; mPH >= 175; mP >= 0
1: For a 2-contributor 2-allele mixture of types AA & AB: 2/2-combination(s):
12, 13(phr = 0.60; p = 0.96) [Ref. 1] • 12, 12(p = 0.04)
12, 13(phr = 1.00; p = 0.81) [Ref. 1] • 13, 13(p = 0.19)
2: For a 2-contributor 2-allele mixture of types AB & AB: 1/1-combination(s):
12, 13(phr = 0.67) [Ref. 1] • 12, 13(phr = 0.67) [Ref. 1]

FIGURE 7.13 Mixture Information Section

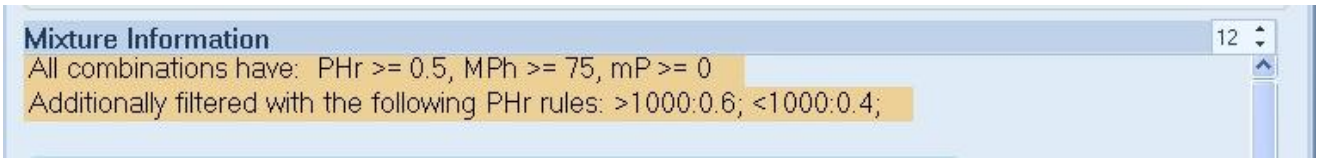

Mixture Information
12
All combinations have: PHr >= 0.5, MPh >= 75, mP >= 0
Additionally filtered with the following PHr rules: >1000:0.6; <1000:0.4;

FIGURE 7.14 Mixture Information Section

Apply Stutter: The Mixture Interpretation tool also includes features to apply stutter. You can either apply stutter to an individual locus or apply it globally to all loci. To apply stutter to just the individual locus, click on the **Apply Stutter** button. If you wish to apply stutter to all loci, click on the box next to "**Apply Globally.**" As shown in Figures 7.15 and 7.16, the RFU amount under locus 12 was refigured from 1580 to 1392 once stutter was considered and the amount is now highlighted in green to indicate stutter was applied. This also changed the calculations in the Mixture Information section. If the Apply Globally option is checked, it will apply stutter to all applicable alleles at each locus.

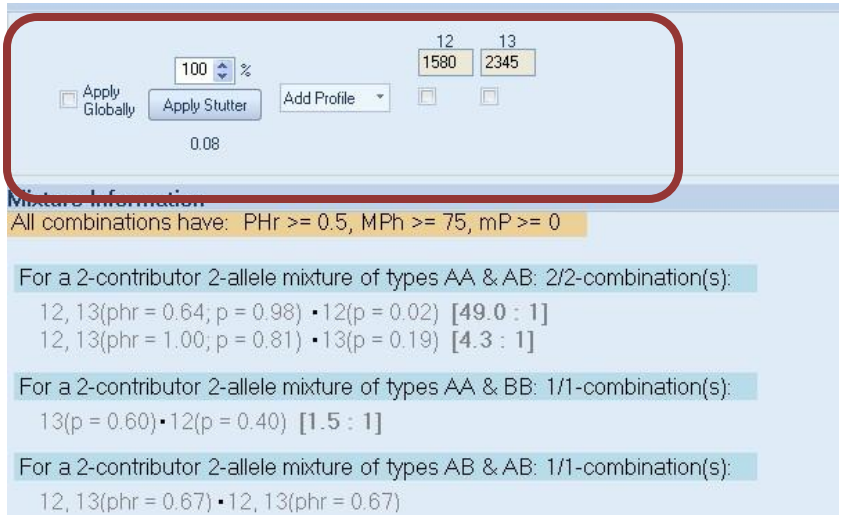

12
13
1580
2345
100 %
Apply Globally
Apply Stutter
Add Profile
0.08
All combinations have: PHr >= 0.5, MPh >= 75, mP >= 0
For a 2-contributor 2-allele mixture of types AA & AB: 2/2-combination(s):
12, 13(phr = 0.64; p = 0.98) • 12(p = 0.02) [49.0 : 1]
12, 13(phr = 1.00; p = 0.81) • 13(p = 0.19) [4.3 : 1]
For a 2-contributor 2-allele mixture of types AA & BB: 1/1-combination(s):
13(p = 0.60) • 12(p = 0.40) [1.5 : 1]
For a 2-contributor 2-allele mixture of types AB & AB: 1/1-combination(s):
12, 13(phr = 0.67) • 12, 13(phr = 0.67)

FIGURE 7.15 Mixture Information before stutter applied

As shown below, once Stutter has been applied the Apply Stutter button changes to Remove Stutter. In addition, in the Mixture Information portion of the window, a note has been made to indicate that the RFU's have been recalculated for stutter. To remove Stutter on a specific locus, click the Remove Stutter button. If you want to turn the Apply Globally feature off, click the box left of it and the check mark will be removed. All Stutter applied to all loci will be removed.

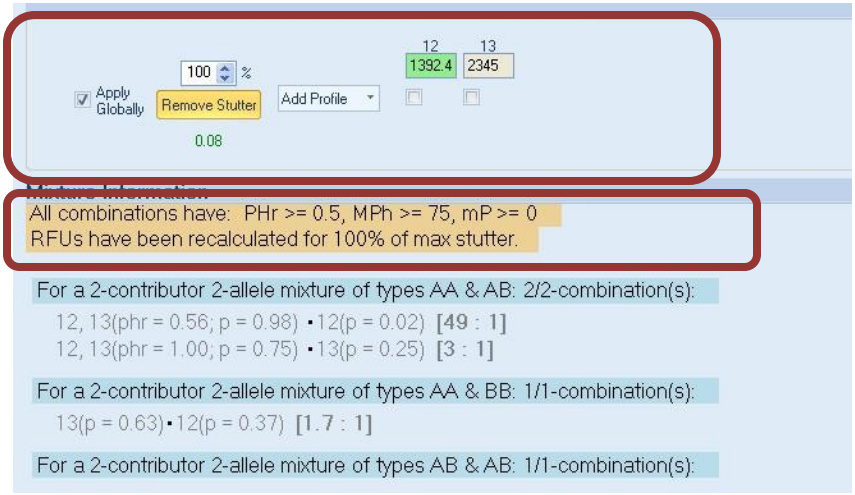

12
13
1392.4
2345
100 %
Apply Globally
Remove Stutter
Add Profile
0.08
All combinations have: PHr >= 0.5, MPh >= 75, mP >= 0
RFUs have been recalculated for 100% of max stutter.
For a 2-contributor 2-allele mixture of types AA & AB: 2/2-combination(s):
12, 13(phr = 0.56; p = 0.98) • 12(p = 0.02) [49 : 1]
12, 13(phr = 1.00; p = 0.75) • 13(p = 0.25) [3 : 1]
For a 2-contributor 2-allele mixture of types AA & BB: 1/1-combination(s):
13(p = 0.63) • 12(p = 0.37) [1.7 : 1]
For a 2-contributor 2-allele mixture of types AB & AB: 1/1-combination(s):

FIGURE 7.16 Mixture Information after stutter applied

The mixture interpretation tool also has a feature to removes alleles that are below the mPH setting. If you click the box next to "**Ignore alleles below mPH**," a check mark will appear in the box. Click on it again to remove the check mark and disable the feature. Once checked, no alleles below the prescribed mPH's will be considered in the mixture combinations and show as grayed out. As shown in the example below, Allele 9.3 has a value of 81, which is below the 100 setting for mPH. Allele 9.3 has been grayed out and all combinations including Allele 9.3 are excluded from the possible mathematical options shown in the mixture interpretation results.

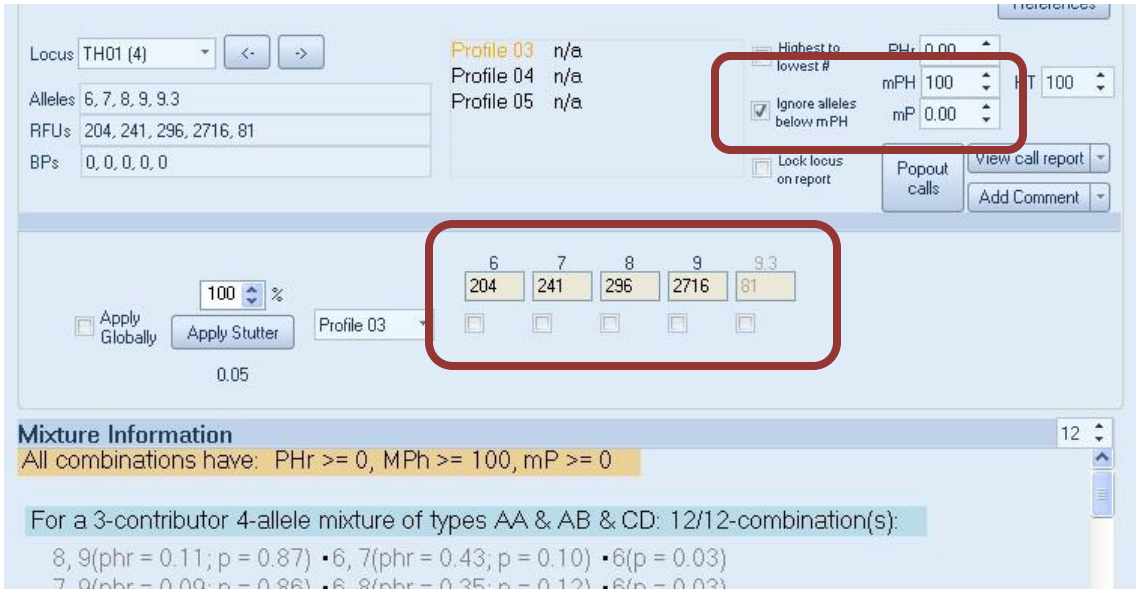

Locus TH01 (4)
Alleles 6, 7, 8, 9, 9.3
RFUs 204, 241, 296, 2716, 81
BPs 0, 0, 0, 0, 0
Profile 03 n/a
Profile 04 n/a
Profile 05 n/a
Highest to lowest #
Ignore alleles below mPH
Lock locus on report
mPH 100
mP 0.00
HT 100
Popout calls
View call report
Add Comment
6 7 8 9 9.3
204 241 296 2716 81
100 %
Apply Globally
Apply Stutter
Profile 03
0.05
Mixture Information
12
All combinations have: PHr >= 0, MPh >= 100, mP >= 0
For a 3-contributor 4-allele mixture of types AA & AB & CD: 12/12-combination(s):
8, 9(phr = 0.11; p = 0.87) • 6, 7(phr = 0.43; p = 0.10) • 6(p = 0.03)

FIGURE 7.17 Remove Alleles below mPH Feature

Any combination that is below the homozygote threshold (HT) will be highlighted pink in the Mixture Information portion of the window.

Locus D19S433 (4)
Alleles 13, 14, 14.2, 18.2
RFUs 787, 410, 886, 292
BPs 117.36, 121.33, 123.34, 139.47
XX01 _a n/a
XX01 _b n/a
Highest to lowest #
Ignore alleles below mPH
Lock locus on report
PHr 0.50
mPH 75
mP 0.00
HT 300
Popout calls
View call report
Add Comment
13 14 14.2 18.2
787 410 886 292
100 %
Apply Globally
Apply Stutter
Add Profile
0.13
Mixture Information
12
All combinations have: PHr >= 0.5, MPh >= 75, mP >= 0
For a 2-contributor 4-allele mixture of types AC & BD: 1/3-combination(s):
13, 14.2(phr = 0.89; p = 0.70) • 14, 18.2(phr = 0.71; p = 0.30) [2.3 : 1]

FIGURE 7.18 Below HT highlight Feature

Making Calls: The Mixture Interpretation Window has three different ways to make profile calls.

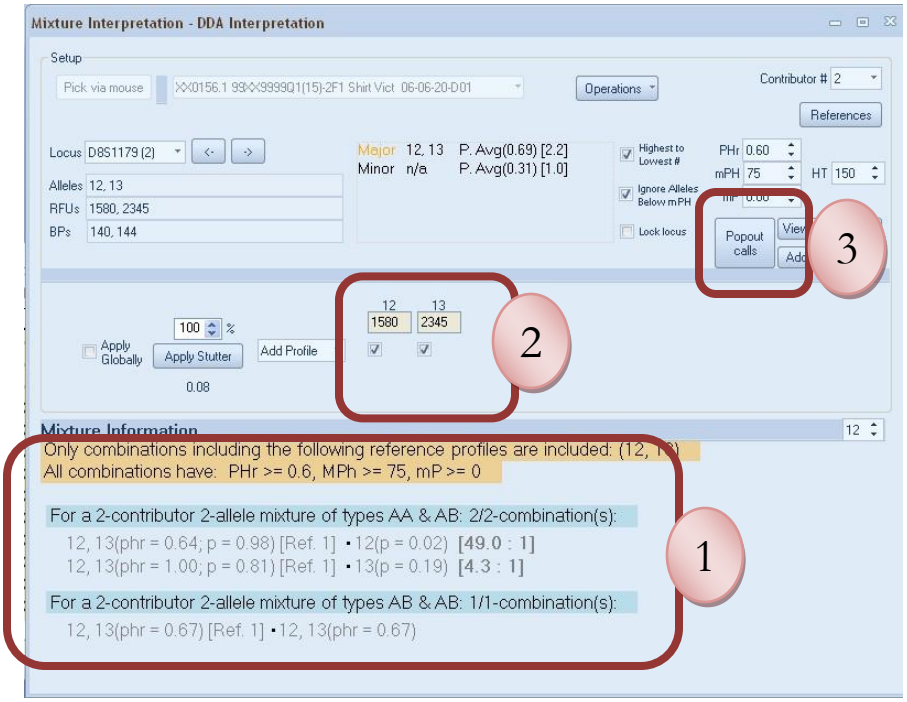

Mixture Interpretation - DDA Interpretation
Setup
Pick via mouse
Operations
Contributor # 2
References
Locus D8S1179 (2)
Major 12, 13 P. Avg(0.69) [2.2]
Minor n/a P. Avg(0.31) [1.0]
Highest to Lowest #
Ignore Alleles Below mPH
Lock locus
PHr 0.60
mPH 75
HT 150
Alleles 12, 13
RFUs 1580, 2345
BPs 140, 144
Popout calls
3
100 %
Apply Globally
Apply Stutter
Add Profile
0.08
12
13
1580
2345
2
Mixture Information
12
Only combinations including the following reference profiles are included: (12,
All combinations have: PHr >= 0.6, MPh >= 75, mP >= 0
For a 2-contributor 2-allele mixture of types AA & AB: 2/2-combination(s):
12, 13(phr = 0.64; p = 0.98) [Ref. 1] • 12(p = 0.02) [49.0 : 1]
12, 13(phr = 1.00; p = 0.81) [Ref. 1] • 13(p = 0.19) [4.3 : 1]
For a 2-contributor 2-allele mixture of types AB & AB: 1/1-combination(s):
12, 13(phr = 0.67) [Ref. 1] • 12, 13(phr = 0.67)
1

FIGURE 7.19 Three different ways to make calls.

The **first way** is to right click the combination you would like to call. The Send to Profile 1 and Send to Profile 2 buttons will appear. If you are doing a 3 contributor mixture interpretation, a Send to Profile 3 button will appear also. Right click on the genotype combination in the combination row you would like to call and select the particular profile by clicking the appropriate "Send to Profile 1, 2, or 3" button. Then repeat for the next profile until all profiles have been chosen. Once selected the information will be appear in blue as show in the example below , Genotype 12, 13 is applied to Profile 1 (Victim) and Genotype 13, 13 is in process of being applied to Profile 2(Suspect). You can also add and view added comments, by clicking on the "**Comment**" button. The comments will also be added to the Mix Interp page of the Call Report, see page 89, figure 7.36 for an example of the comment on the Mix Interp page.

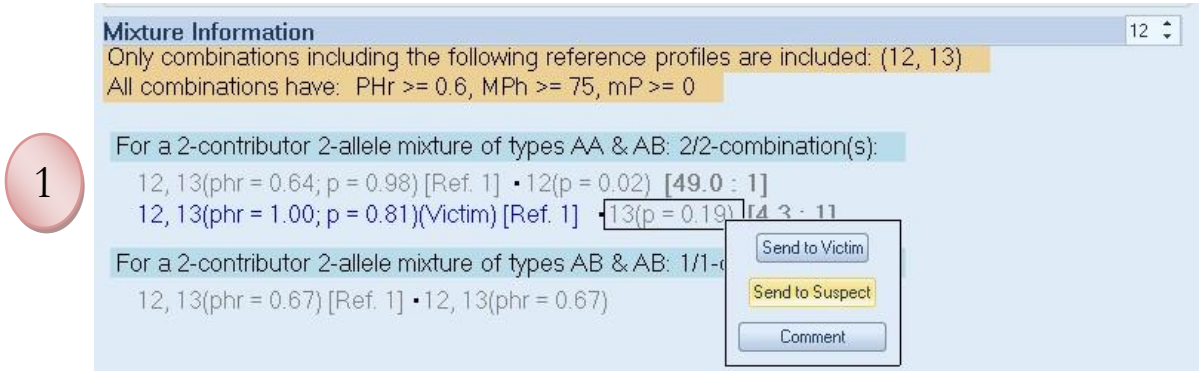

Mixture Information
12
Only combinations including the following reference profiles are included: (12, 13)
All combinations have: PHr >= 0.6, MPh >= 75, mP >= 0
For a 2-contributor 2-allele mixture of types AA & AB: 2/2-combination(s):
12, 13(phr = 0.64; p = 0.98) [Ref. 1] • 12(p = 0.02) [49.0 : 1]
12, 13(phr = 1.00; p = 0.81)(Victim) [Ref. 1] • 13(p = 0.19)
For a 2-contributor 2-allele mixture of types AB & AB: 1/1-
12, 13(phr = 0.67) [Ref. 1] • 12, 13(phr = 0.67)
Send to Victim
Send to Suspect
Comment
1

FIGURE 7.20 Calls made from Mixture Information Section.

The **second way** is to manually select alleles in the middle section of the Mixture Interpretation Window. Click on the Profile you would like to make a call for and then click on the boxes under the allele(s) you would like to select. A check mark will appear in the boxes selected. If you would like to make one of the alleles as an Any or an Obligate, right click on the checkmark box and a drop down list will appear. You can also use this feature to remove or ignore an allele. Select the appropriate option. As shown in Figure 7.23, the word "Any" will appear right of the chosen allele if any is selected and a "0" will appear right of the chosen allele if an obligate is selected.

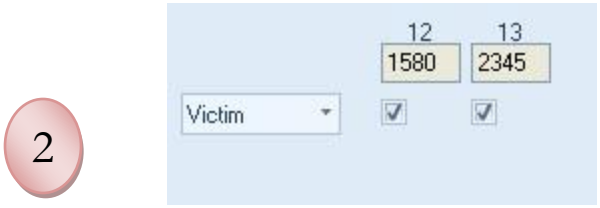


FIGURE 7.21 Calls made from Middle Section.

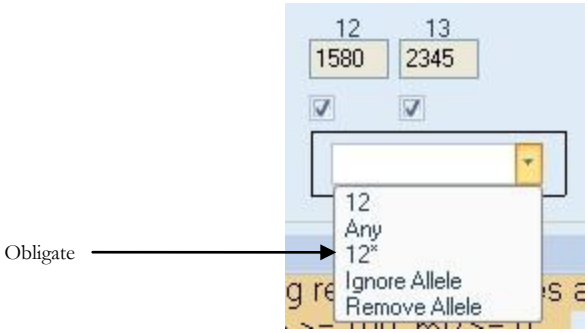


FIGURE 7.22 Calls made from Middle Section.

FIGURE 7.23 Examples of an 12 Any called and a 12 Obligate Called

The **final way** is to click on the "Popout calls" button. A window will appear as shown in Figure 7.24 below. You can click on the box under the allele you would like to select for each Profile. A check mark will show on all selected alleles. By reclicking on a box that contains a checkmark, it will be removed. If you would like to call an Any or an Obligate, right click on the box under the appropriate allele and across from the right profile, a drop down list will appear as seen in Figure 7.25 below. You can then click on the appropriate choice. You can also delete an allele using the drop down list.

Once chosen, you can move to a different locus using the <- or -> arrows next to the locus to move forward or backward or click on the ▼arrow on the locus box to move to a specific locus. You can close this window by clicking on the X in the upper right hand corner.

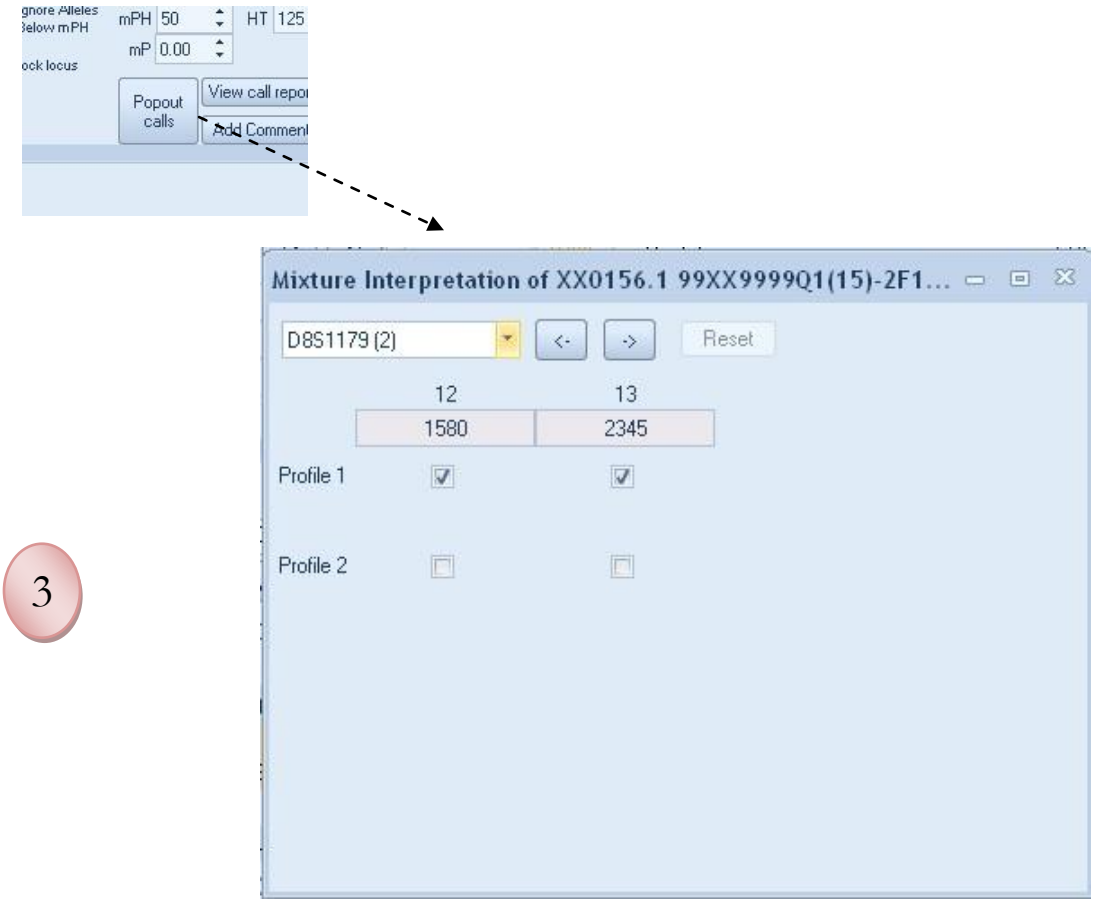


FIGURE 7.24 Calls made from Popout Calls Window.

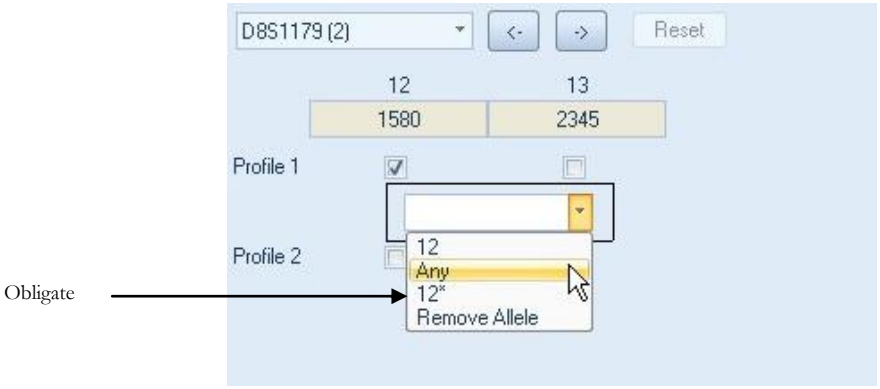


FIGURE 7.25 Choosing Any in the Popout Calls Window.

Note: Once you make a call with any of the methods, it will be recorded in all the methods. Therefore, you can change methods throughout the mixture interpretation, without losing any calls already made using one of the other methods For example, once 12, 13 were called for Profile 1, it was highlighted blue in Method One and check marks were recorded marking alleles 12, 13 in Methods 2 and 3.

Navigation: There are a few different ways to navigate to different locus in the Mixture Interpretation Window. You can use the method explained above in the Popout calls Window. You can click on the ▼arrow next to Locus Box for a drop down list of all loci and then individually select the locus. Finally, you can click the <- or -> arrows to move either forward or backward to a different locus.

FIGURE 7.26 Moving to a different locus.

Additional Features: There are four additional features to help you make calls with the Mixture Interpretation Window.

The first is the **Highest to Lowest #** option. By clicking on the box next to Highest to Lowest #, the locus will be arranged from the locus with the most alleles to the ones with the least. **Note:** Changes made to the alleles while making your interpretation, like deleting an allele or adding stutter, can change the order of the loci when using the Highest to Lowest # option.

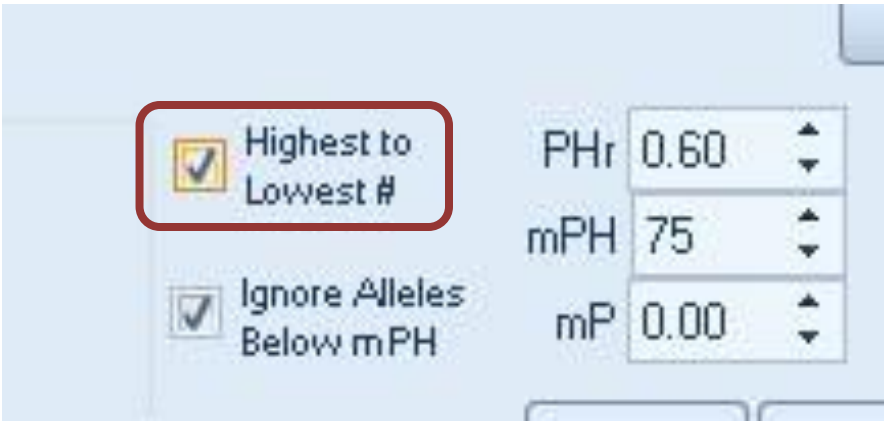


FIGURE 7.27 Highest to Lowest # Feature

As you make each call, the **proportion average** will be shown on the Mixture Interpretation Window. It is located in the middle top portion of the screen. Next to the proportions will be the **dilution ratio**, if that option is selected in the Mixture Interpretation settings in the ArmedXpert Options window.

FIGURE 7.28 Proportion Average Section

To assist with your interpretation you can choose to visualize the proportions of your calls in a graphical format by clicking on the "**View call report**" button. The call report will open. The mixture is shown on the top of the page and the profiles are shown below that. Below the profiles will be the alleles that are foreign to the reference if you selected this option when selecting your reference. A graph showing the proportion of each profile by loci is generated below the profiles. Below the graph are the proportions that relate to the graph.

As you make your calls, the alleles will auto populate the report. You can customize how the report appears by clicking the arrow next to "View call report" button. It will bring up a drop down list as shown below.
➧ **Note:** The graph only shows the proportions for the locus that have completed combinations called.

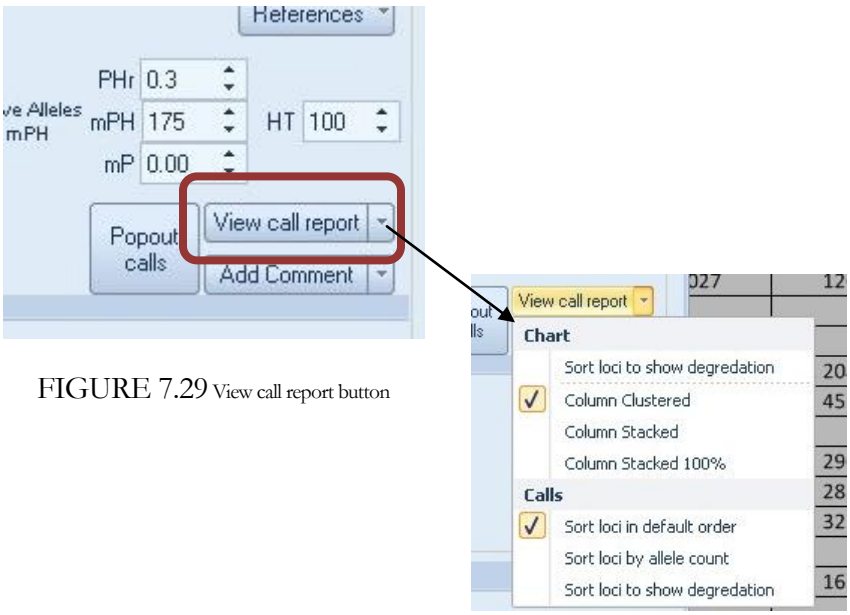


FIGURE 7.29 View call report button

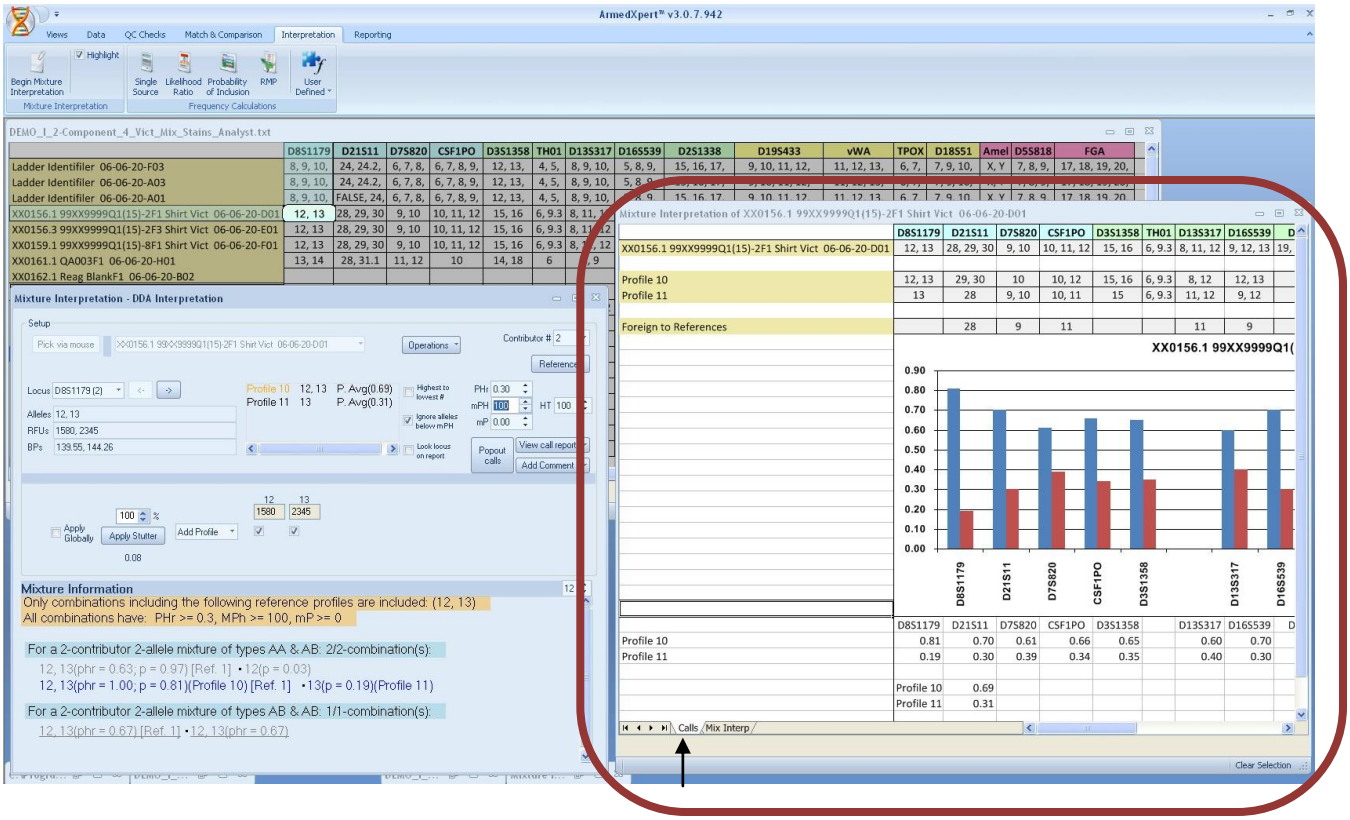

ArmedXpert™ v3.0.7.942
Mixture Interpretation - DDA Interpretation
Mixture Information
Only combinations including the following reference profiles are included: (12, 13)
All combinations have: PHr >= 0.3, MPh >= 100, mP >= 0
For a 2-contributor 2-allele mixture of types AA & AB: 2/2-combination(s):
12, 13(phr = 0.63; p = 0.97) [Ref. 1] •12(p = 0.03)
12, 13(phr = 1.00; p = 0.81)(Profile 10) [Ref. 1] •13(p = 0.19)(Profile 11)
For a 2-contributor 2-allele mixture of types AB & AB: 1/1-combination(s):
12, 13(phr = 0.67) [Ref. 1] •12, 13(phr = 0.67)
Mixture Interpretation of XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01
Profile 10
Profile 11
Foreign to References
Calls
Mix Interp
Clear Selection

FIGURE 7.30 Call report Example

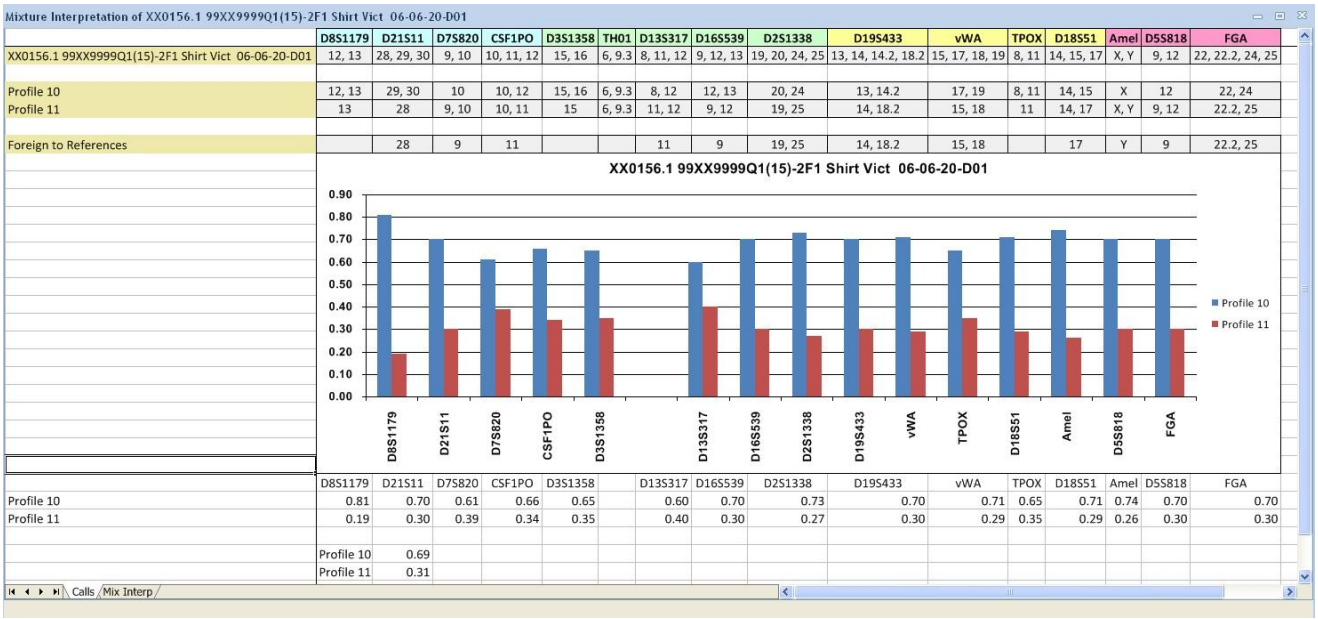


FIGURE 7.31 Call report Example

The Call Report includes additional worksheet to document each of your interpretation parameters and results locus-by-locus. If you click on the Mix_Interp Worksheet tab at the bottom of the report, you will see a Mixture Interpretation Detail Report.

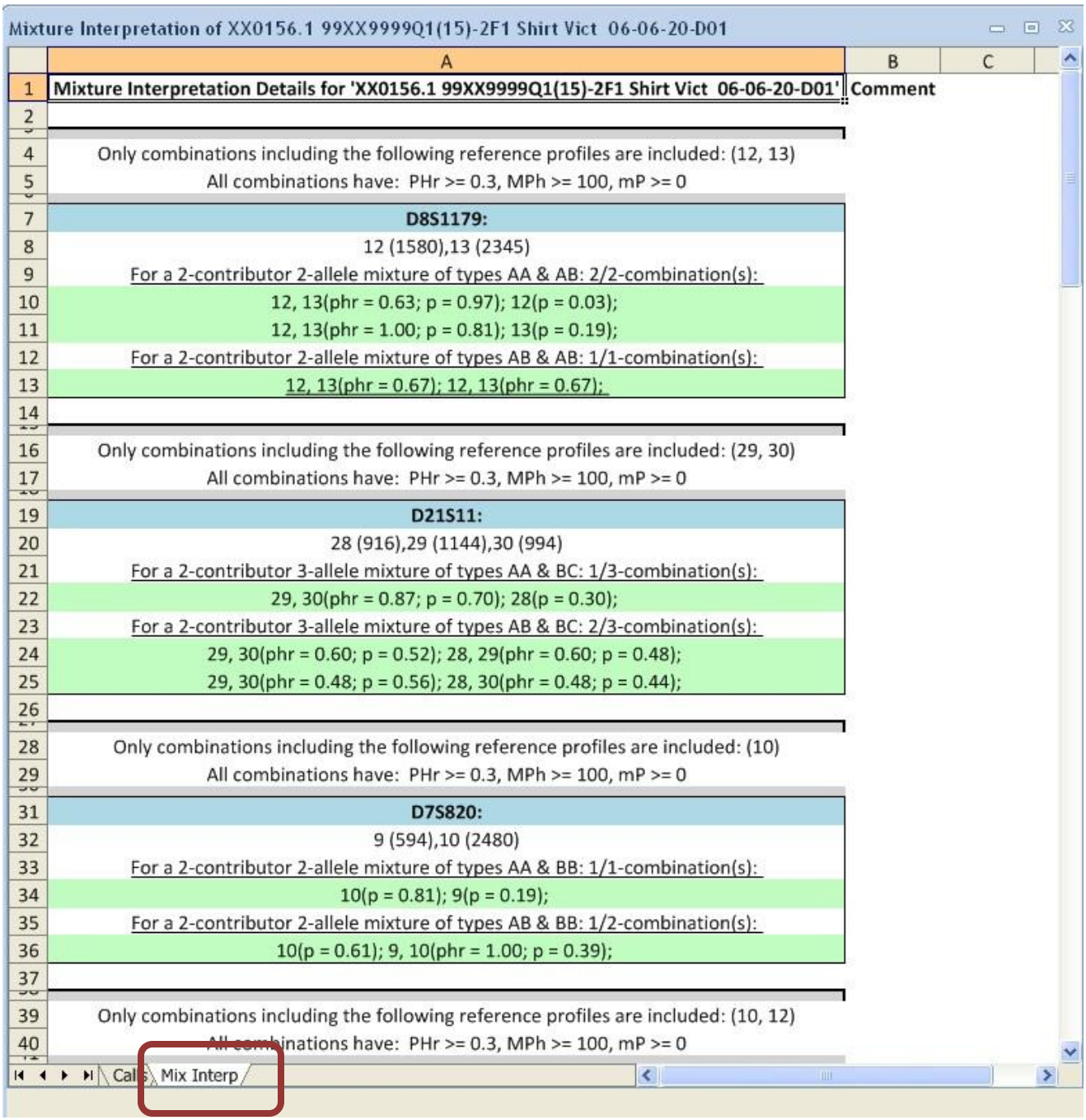

Mixture Interpretation of XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01
Mixture Interpretation Details for 'XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01'
Comment
Only combinations including the following reference profiles are included: (12, 13)
All combinations have: PHr >= 0.3, MPh >= 100, mP >= 0
D8S1179:
12 (1580),13 (2345)
For a 2-contributor 2-allele mixture of types AA & AB: 2/2-combination(s):
12, 13(phr = 0.63; p = 0.97); 12(p = 0.03);
12, 13(phr = 1.00; p = 0.81); 13(p = 0.19);
For a 2-contributor 2-allele mixture of types AB & AB: 1/1-combination(s):
12, 13(phr = 0.67); 12, 13(phr = 0.67);
Only combinations including the following reference profiles are included: (29, 30)
All combinations have: PHr >= 0.3, MPh >= 100, mP >= 0
D21S11:
28 (916),29 (1144),30 (994)
For a 2-contributor 3-allele mixture of types AA & BC: 1/3-combination(s):
29, 30(phr = 0.87; p = 0.70); 28(p = 0.30);
For a 2-contributor 3-allele mixture of types AB & BC: 2/3-combination(s):
29, 30(phr = 0.60; p = 0.52); 28, 29(phr = 0.60; p = 0.48);
29, 30(phr = 0.48; p = 0.56); 28, 30(phr = 0.48; p = 0.44);
Only combinations including the following reference profiles are included: (10)
All combinations have: PHr >= 0.3, MPh >= 100, mP >= 0
D7S820:
9 (594),10 (2480)
For a 2-contributor 2-allele mixture of types AA & BB: 1/1-combination(s):
10(p = 0.81); 9(p = 0.19);
For a 2-contributor 2-allele mixture of types AB & BB: 1/2-combination(s):
10(p = 0.61); 9, 10(phr = 1.00; p = 0.39);
Only combinations including the following reference profiles are included: (10, 12)
Mix Interp

FIGURE 7.32 Mix_Interp Worksheet Tab

These reports can be printed and/or saved using the print and export features explained in Chapter 2.

You can add a comment(s) to the call report. Click on "Add Comment" button. A drop down list will appear to give you a choice to add comments to the Calls page or the Mixt Interp page or you can remove comments that you have already added. If you select to add comment to either page, the "Add a comment" window will open. Type the comment you would like to appear on the page. Click "Ok." This will add a comment to the specific page in the Call report.

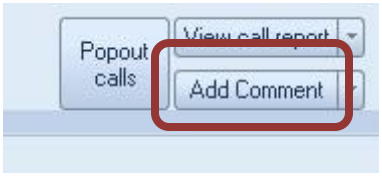


FIGURE 7.33 Add Comment button

FIGURE 7.34 Add Comment drop down list

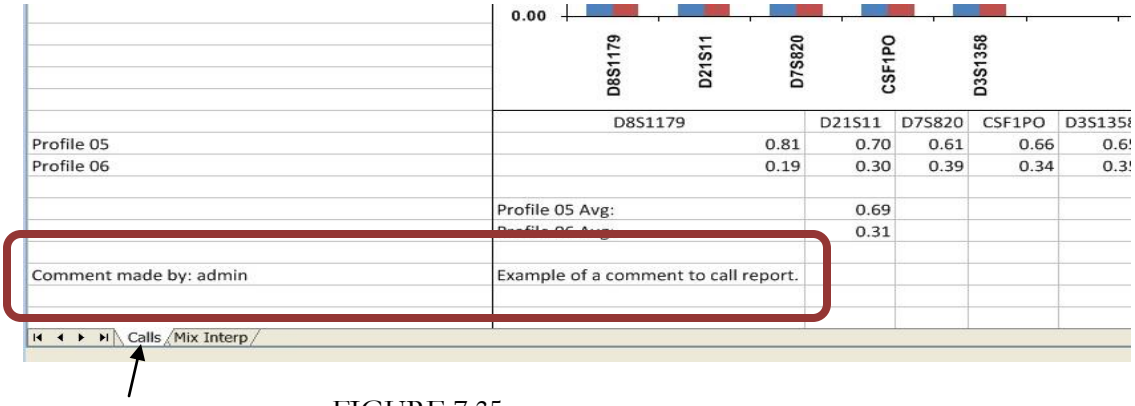


FIGURE 7.35 Added Comment Example to Calls page

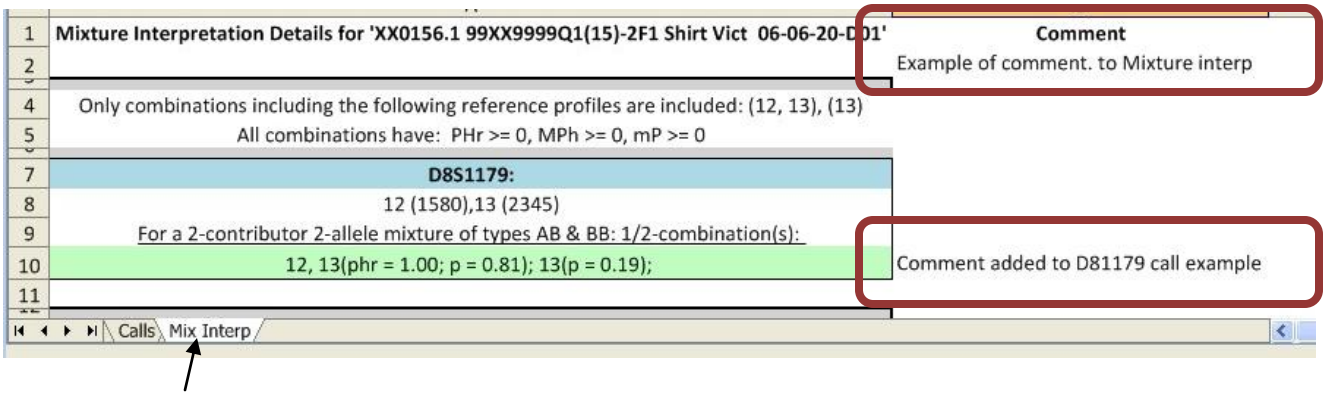

Mixture Interpretation Details for 'XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01'
Comment
Example of comment. to Mixture interp
Only combinations including the following reference profiles are included: (12, 13), (13)
All combinations have: PHr >= 0, MPh >= 0, mP >= 0
D8S1179:
12 (1580),13 (2345)
For a 2-contributor 2-allele mixture of types AB & BB: 1/2-combination(s):
12, 13(phr = 1.00; p = 0.81); 13(p = 0.19);
Comment added to D81179 call example
Calls
Mix Interp

FIGURE 7.36 Added Comment Example to Mix Interp page

There is an "**Operations"** button to the right of the selected sample. This opens a RMP report for this sample or allows you to open an OSIRIS Plot File or Virtual Electropherogram. Click on the "Operations" button and a drop down list will open.

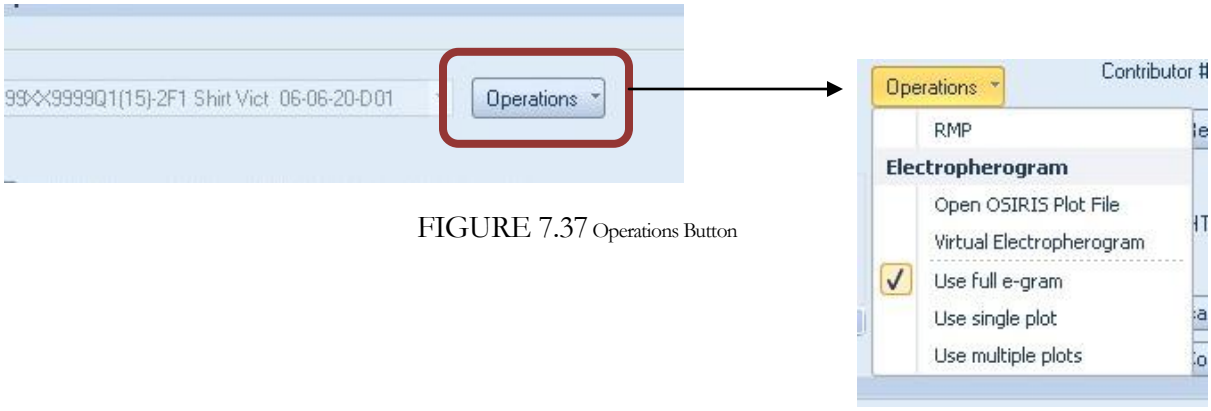


FIGURE 7.37 Operations Button

To open the RMP report, choose RMP from the drop down list. The locus you currently are on will be shown. You can choose between Modified RMP, Forced mRMP, and Restricted RMP. If you would like to have the report shown all Loci with Restricted RMP, click on the box next to "**Apply Restricted Globally**." If you do not, all the other loci will have the Modified RMP applied. You can also choose to have the Homozygote Threshold (HT) to be restricted globally, by clicking on the box to left of "**Restrict HT Globally**." ***Make sure the Contributor number is correct.*** Finally, click the "Open Frequency Report" button. A mixture frequency report will then open to aide you with making your calls.

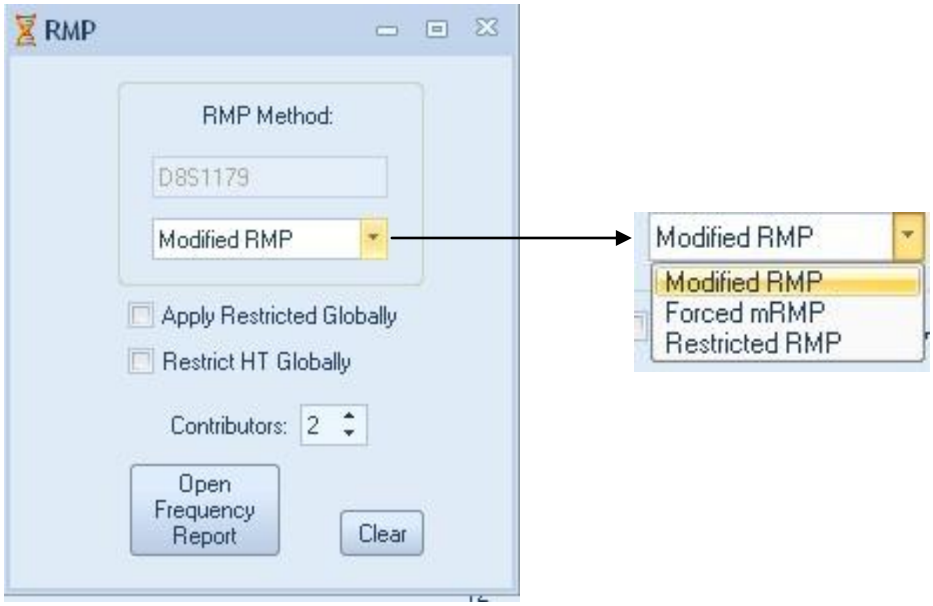


FIGURE 7.38 Mixture Interpretation Frequency Window

To open an OSIRIS Plot File, choose OSIRIS Plot File from the list. You can change from a full e-gram, single plot, or multiple plots by choosing each option in the drop down list once the OSIRIS Plot File is open.

FIGURE 7.39 Osris Plot File

To open a Virtual Electropherogram, choose Virtual Electropherogram from the list. You can change from a full e-gram, single plot, or multiple plots by choosing each option in the drop down list once the virtual Electropherogram is open.

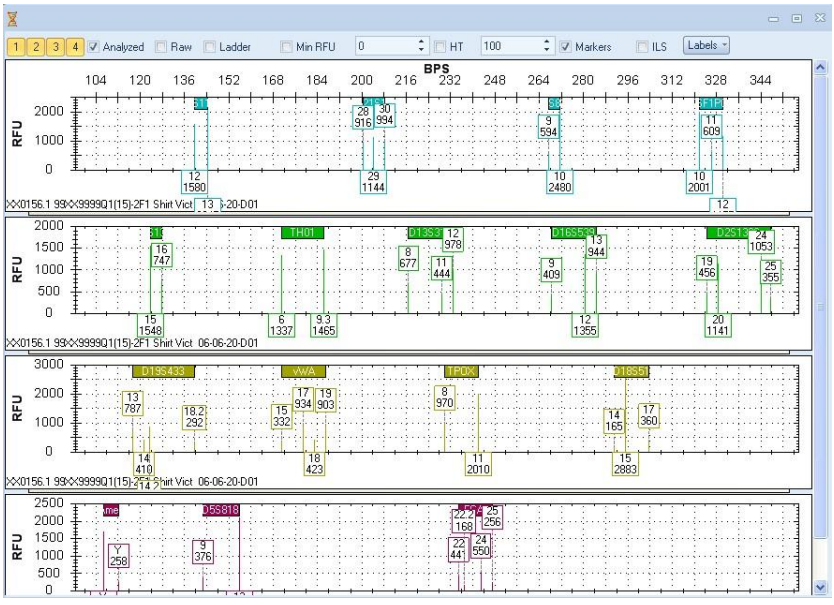


FIGURE 7.40 Virtual Electropherogram

Frequency Calculations

The **Frequency Calculation** section allows you to perform different frequency calculations. ArmedXpert includes frequency calculations for **Single Source**, **Likelihood Ratio**, **Probability of Inclusion**, **RMP, and User Defined**. The User Defined option allows you to run a custom plug in calculation.

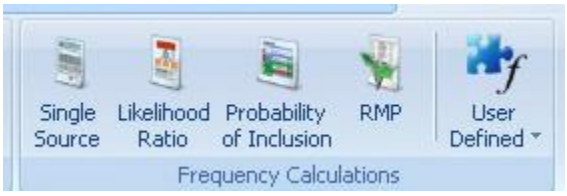


FIGURE 7.41 Frequency Calculations

Note: When closing each page, a confirmation window will open to ask if you would like to save the report or not if the option to prompt to save on application close or window close is turned on.

The first type of frequency calculations is a **Single Source** calculation. To obtain Single Source Frequency Calculations, click on the Single Source button. The Select/Pick via mouse window will appear. Select the single source sample you wish to perform the calculations on with your mouse or click on the ▼arrow and select from the drop down list.

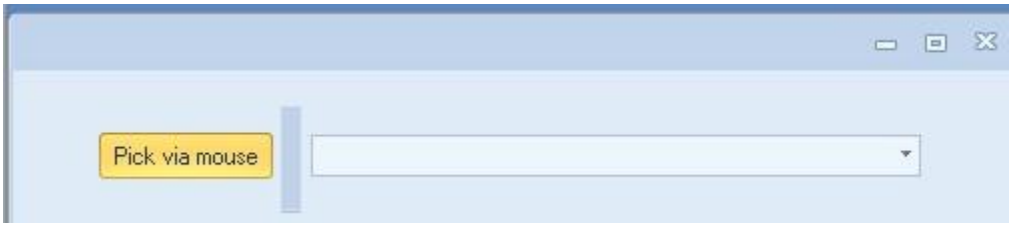


FIGURE 7.42 Select/Pick via Mouse Window

The Frequency Single Source page will appear as in Figure 7.44 shown on the following page. All loci and their corresponding alleles are imported into the page. On the bottom of the screen, you can select the relationship types to include in your calculations including: Unrelated, Full Siblings, Parents and Offsprings, Half Siblings, Uncles, and Nephews, and First Cousins. Unrelated by default is checked. The system will automatically calculate the frequency for each locus, and for each selected relationship type by ethnicity. At the bottom of the page are the calculations by ethnicity for the entire profile. The calculations are shown in both exponential and alphanumeric form. Examples of the Frequency Single Source Page are shown in Figures 7.43 and 7.44 on the following page.

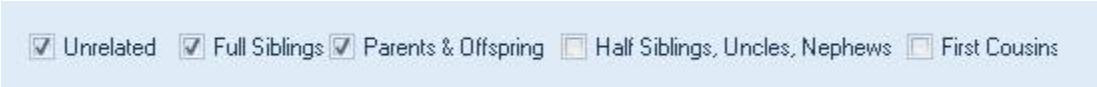
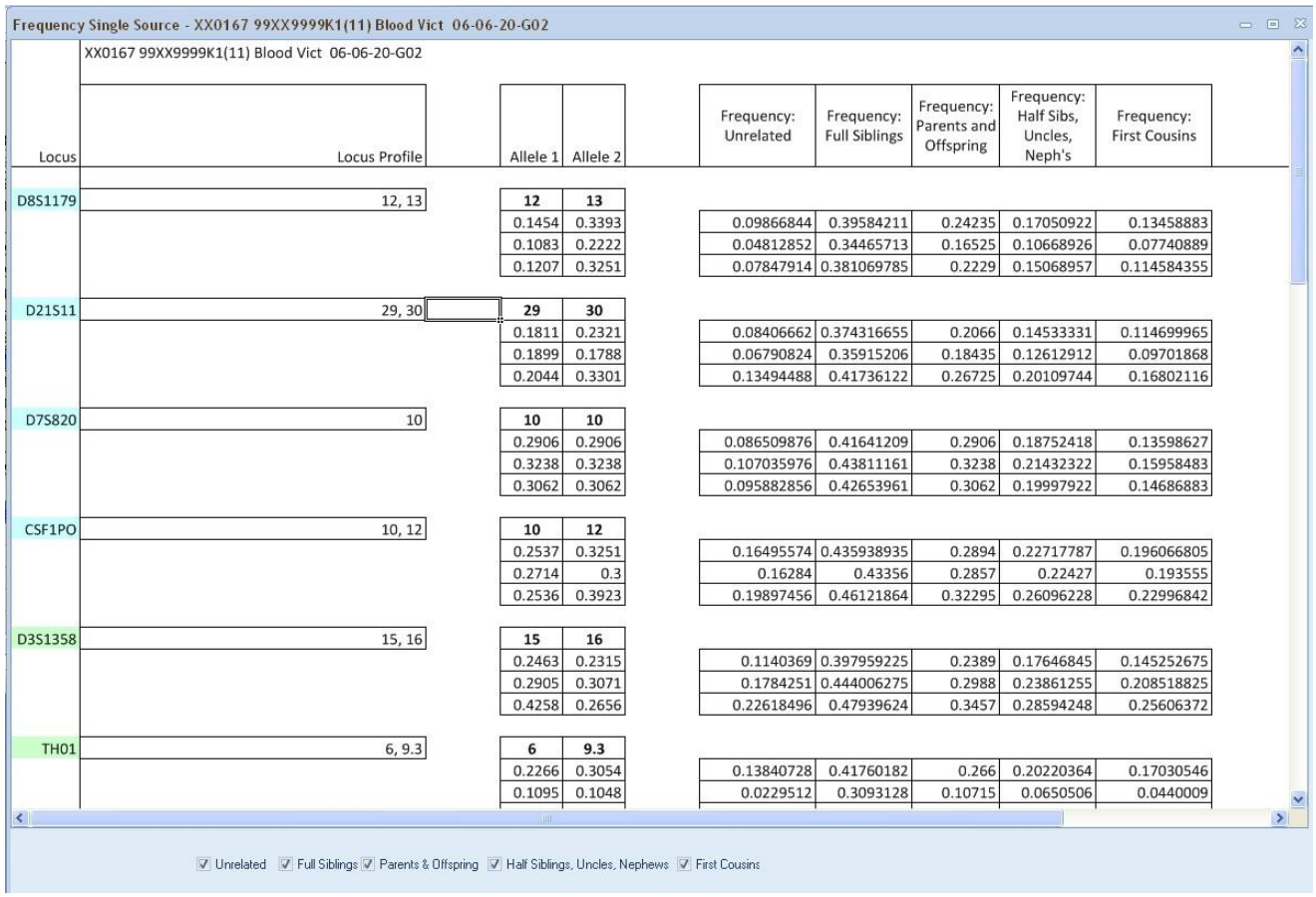
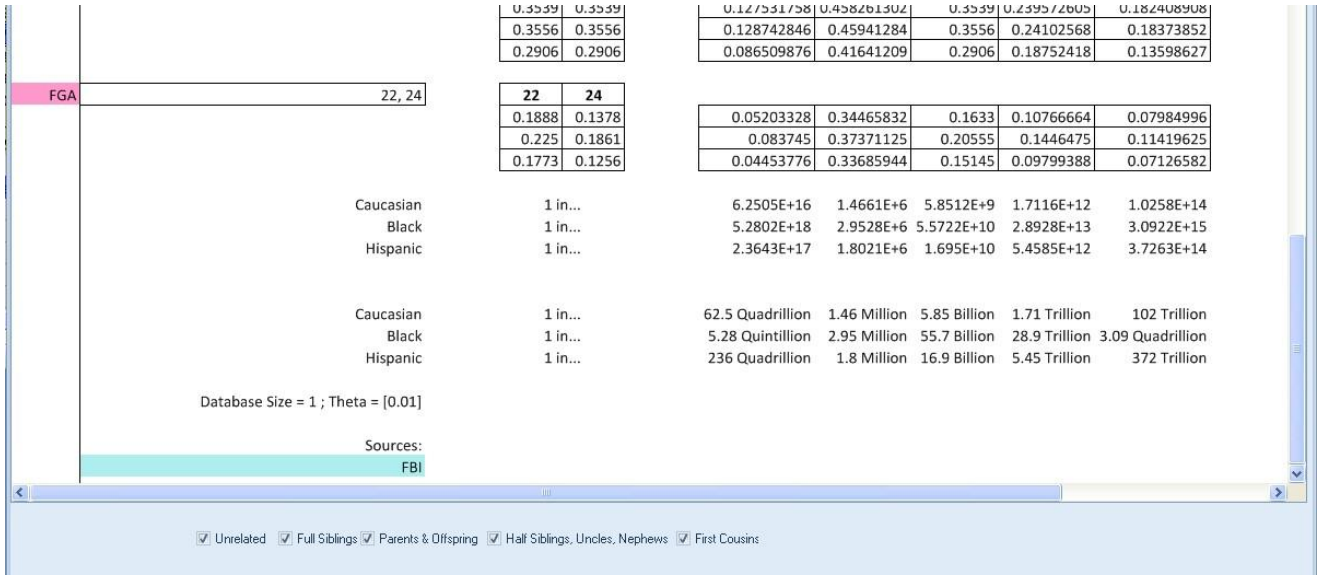


FIGURE 7.43 Relationship Type Selections



Locus	Locus Profile	Allele 1	Allele 2	Frequency: Unrelated	Frequency: Full Siblings	Frequency: Parents and Offspring	Frequency: Half Sibs, Uncles, Neph's	Frequency: First Cousins
D8S1179	12, 13	12	13					
		0.1454	0.3393	0.09866844	0.39584211	0.24235	0.17050922	0.13458883
		0.1083	0.2222	0.04812852	0.34465713	0.16525	0.10668926	0.07740889
		0.1207	0.3251	0.07847914	0.381069785	0.2229	0.15068957	0.114584355
D21S11	29, 30	29	30					
		0.1811	0.2321	0.08406662	0.374316655	0.2066	0.14533331	0.114699965
		0.1899	0.1788	0.06790824	0.35915206	0.18435	0.12612912	0.09701868
		0.2044	0.3301	0.13494488	0.41736122	0.26725	0.20109744	0.16802116
D7S820	10	10	10					
		0.2906	0.2906	0.086509876	0.41641209	0.2906	0.18752418	0.13598627
		0.3238	0.3238	0.107035976	0.43811161	0.3238	0.21432322	0.15958483
		0.3062	0.3062	0.095882856	0.42653961	0.3062	0.19997922	0.14686883
CSF1PO	10, 12	10	12					
		0.2537	0.3251	0.16495574	0.435938935	0.2894	0.22717787	0.196066805
		0.2714	0.3	0.16284	0.43356	0.2857	0.22427	0.193555
		0.2536	0.3923	0.19897456	0.46121864	0.32295	0.26096228	0.22996842
D3S1358	15, 16	15	16					
		0.2463	0.2315	0.1140369	0.397959225	0.2389	0.17646845	0.145252675
		0.2905	0.3071	0.1784251	0.444006275	0.2988	0.23861255	0.208518825
		0.4258	0.2656	0.22618496	0.47939624	0.3457	0.28594248	0.25606372
TH01	6, 9.3	6	9.3					
		0.2266	0.3054	0.13840728	0.41760182	0.266	0.20220364	0.17030546
		0.1095	0.1048	0.0229512	0.3093128	0.10715	0.0650506	0.0440009

FIGURE 7.44 Single Source Calculation Page



		0.3556	0.3556	0.128742846	0.45941284	0.3556	0.24102568	0.18373852
		0.2906	0.2906	0.086509876	0.41641209	0.2906	0.18752418	0.13598627
FGA	22, 24	22	24					
		0.1888	0.1378	0.05203328	0.34465832	0.1633	0.10766664	0.07984996
		0.225	0.1861	0.083745	0.37371125	0.20555	0.1446475	0.11419625
		0.1773	0.1256	0.04453776	0.33685944	0.15145	0.09799388	0.07126582
	Caucasian	1 in...		6.2505E+16	1.4661E+6	5.8512E+9	1.7116E+12	1.0258E+14
	Black	1 in...		5.2802E+18	2.9528E+6	5.5722E+10	2.8928E+13	3.0922E+15
	Hispanic	1 in...		2.3643E+17	1.8021E+6	1.695E+10	5.4585E+12	3.7263E+14
	Caucasian	1 in...		62.5 Quadrillion	1.46 Million	5.85 Billion	1.71 Trillion	102 Trillion
	Black	1 in...		5.28 Quintillion	2.95 Million	55.7 Billion	28.9 Trillion	3.09 Quadrillion
	Hispanic	1 in...		236 Quadrillion	1.8 Million	16.9 Billion	5.45 Trillion	372 Trillion
	Database Size = 1 ; Theta = [0.01]							
	Sources:							
	FBI							

FIGURE 7.45 Bottom Portion of the Single Source Calculation Page

The second type of frequency calculations is a **Likelihood Ratio** calculation. It is used to calculate likelihood ratios for mixture samples. To obtain the Likelihood Ratio Calculations, click on the Likelihood Ratio Button. The Select/Pick via mouse window will appear. Select the sample you wish to perform the calculations on with your mouse or click on the ▼arrow and select from the drop down list.

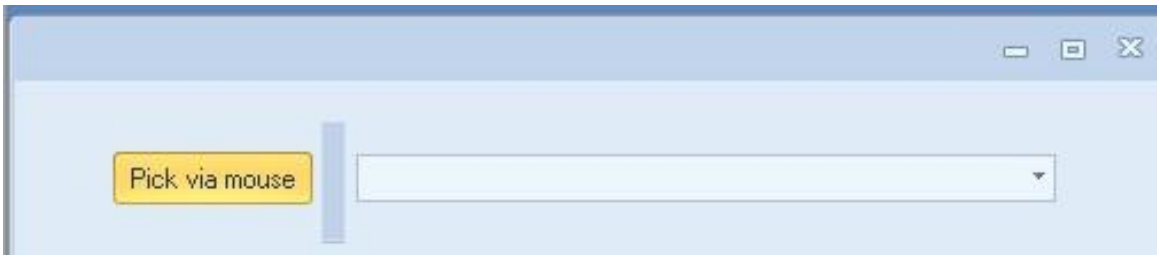


FIGURE 7.46 Select/Pick via Mouse Window

All loci and their corresponding alleles are imported into the page and ArmedXpert will automatically perform the calculations. The combined likelihood ratio for each ethnicity is listed under the Likelihood column. The prosecution's results are listed under the C1 column and the defense's results are listed under the C2 column.

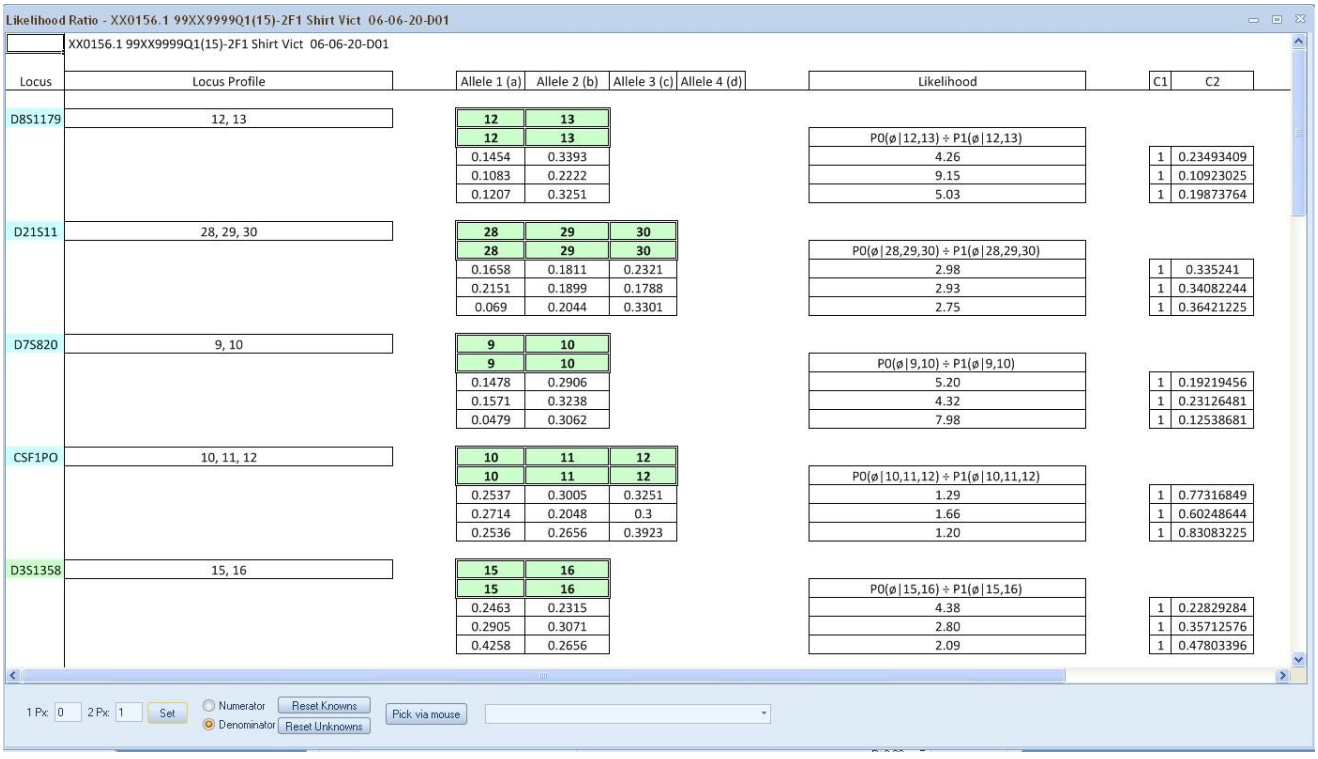


FIGURE 7.47 Likelihood Ratio Page

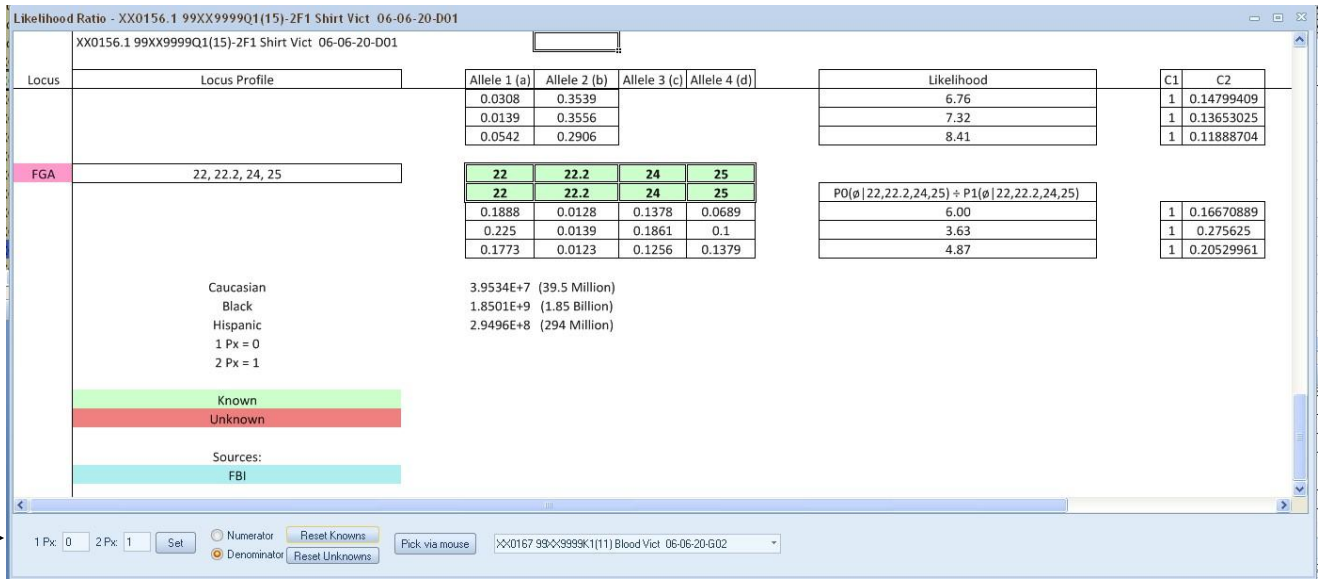


FIGURE 7.48 Bottom of Likelihood Ratio Page

To aid in the Likelihood Ratio calculations, there are options at the bottom of the screen. 1 Px is the number of unknown contributors for the prosecution, and in this example is zero. 2 Px is the number of unknown contributors for the defense, and in this example is one. Enter the correct numbers for each and click the "Set" button.

Note: The top row of alleles at each locus is the Numerator or Prosecution and the bottom row of alleles at each locus is the Denominator or Defense. The calculations change based on the values set.

You can add a reference (contributor) to either Numerator (prosecution) or Denominator (defense). Choose either Numerator or Denominator by clicking on the circle next to the wanted choice. The circle will be filled in as shown below to indicate the chosen one. Then, either click on the Pick via mouse button and select your reference or click on the ▼arrow and select the reference from the drop down list of samples. If you have more than one sample to select, use the Pick via mouse button, hold down the Ctrl button on your keyboard, and then select the samples with your mouse, once selected release the Ctrl button. The reference's alleles will appear in green at each locus, as shown in figure 7.50 on the next page.

FIGURE 7.49 Bottom of Screen of the Likelihood Ratio Page

The "Reset Knowns" button resets all unknowns (red) back to known (green) for either the Numerator or Denominator for either the Numerator or Denominator depending on which is chosen. The "Reset Unknowns" resets all knowns (green) to unknown (red) for either the Numerator or Denominator depending on which is chosen.

Double click on any allele to change from Green (Known) to Red (unknown) or vice versa. All calculations will automatically recalculate with all changes done to the page.

At the bottom of the page are the calculations by ethnicity for the entire profile. The calculations are shown in both exponential and alphanumeric form. An example of the bottom of a Likelihood report can be seen in Figure 7.48 on the previous page.

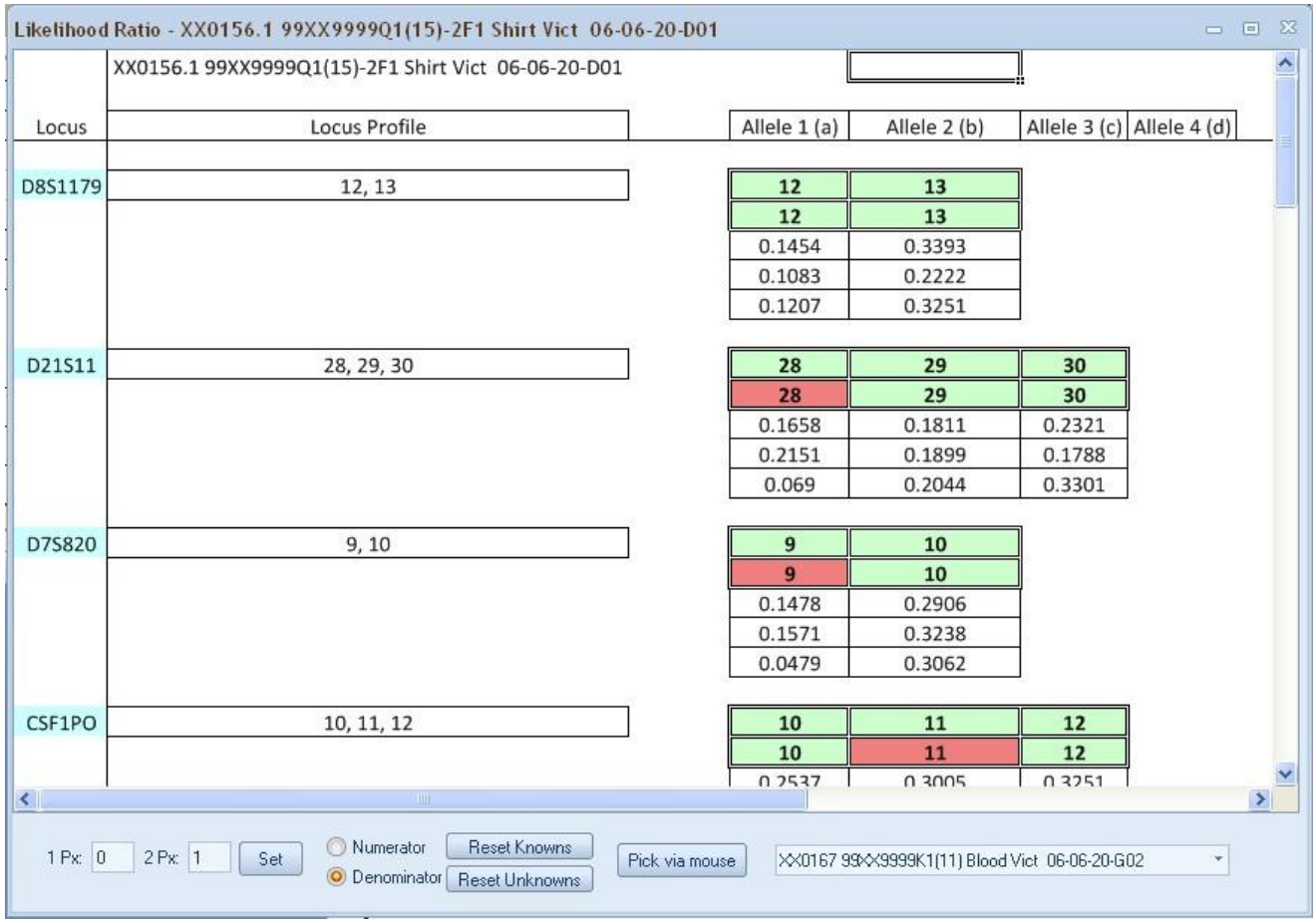


FIGURE 7.50 Likelihood Ratio Page with Reference Applied.

The third type of frequency calculations is a **Probability of Inclusion** calculation. It calculates both probability of inclusion (PI) and probability of exclusion (PE) for single source and mixture samples. To obtain the Probability of Inclusion Calculation page, click on the Probability of Inclusion button. The Select/Pick via mouse window will appear. Select the sample you wish to perform the calculations on with your mouse or click on the ▼arrow and select from the drop down list.

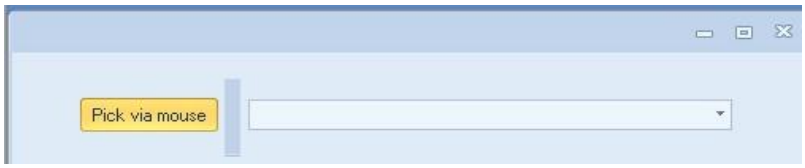


FIGURE 7.51 Select/Pick via Mouse Window

The Probability of Inclusion Calculation page will appear. All loci and their corresponding alleles are imported into the page and ArmedXpert will automatically perform the calculations. The frequency calculations, separated by ethnicity will be listed under each allele. The probability of exclusion and probability of inclusion will be listed to the right of the screen, also separated by ethnic group.

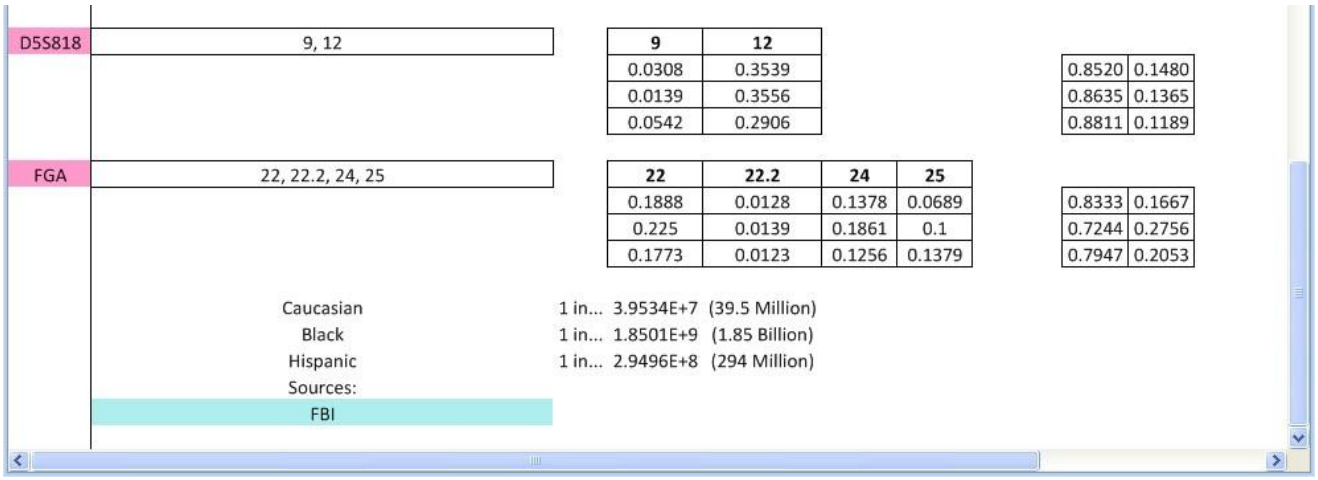
Probability of Inclusion - XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01

XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01

Locus	Locus Profile	Allele 1	Allele 2	Allele 3	Allele 4	PE	PI
D8S1179	12, 13	**12**	**13**				
		0.1454	0.3393			0.7651	0.2349
		0.1083	0.2222			0.8908	0.1092
		0.1207	0.3251			0.8013	0.1987
D21S11	28, 29, 30	**28**	**29**	**30**			
		0.1658	0.1811	0.2321		0.6648	0.3352
		0.2151	0.1899	0.1788		0.6592	0.3408
		0.069	0.2044	0.3301		0.6358	0.3642
D7S820	9, 10	**9**	**10**				
		0.1478	0.2906			0.8078	0.1922
		0.1571	0.3238			0.7687	0.2313
		0.0479	0.3062			0.8746	0.1254
CSF1PO	10, 11, 12	**10**	**11**	**12**			
		0.2537	0.3005	0.3251		0.2268	0.7732
		0.2714	0.2048	0.3		0.3975	0.6025
		0.2536	0.2656	0.3923		0.1692	0.8308
D3S1358	15, 16	**15**	**16**				
		0.2463	0.2315			0.7717	0.2283
		0.2905	0.3071			0.6429	0.3571
		0.4258	0.2656			0.5220	0.4780
TH01	6, 9.3	**6**	**9.3**				
		0.2266	0.3054			0.7170	0.2830
		0.1095	0.1048			0.9541	0.0459

FIGURE 7.52 Probability of Inclusion Page

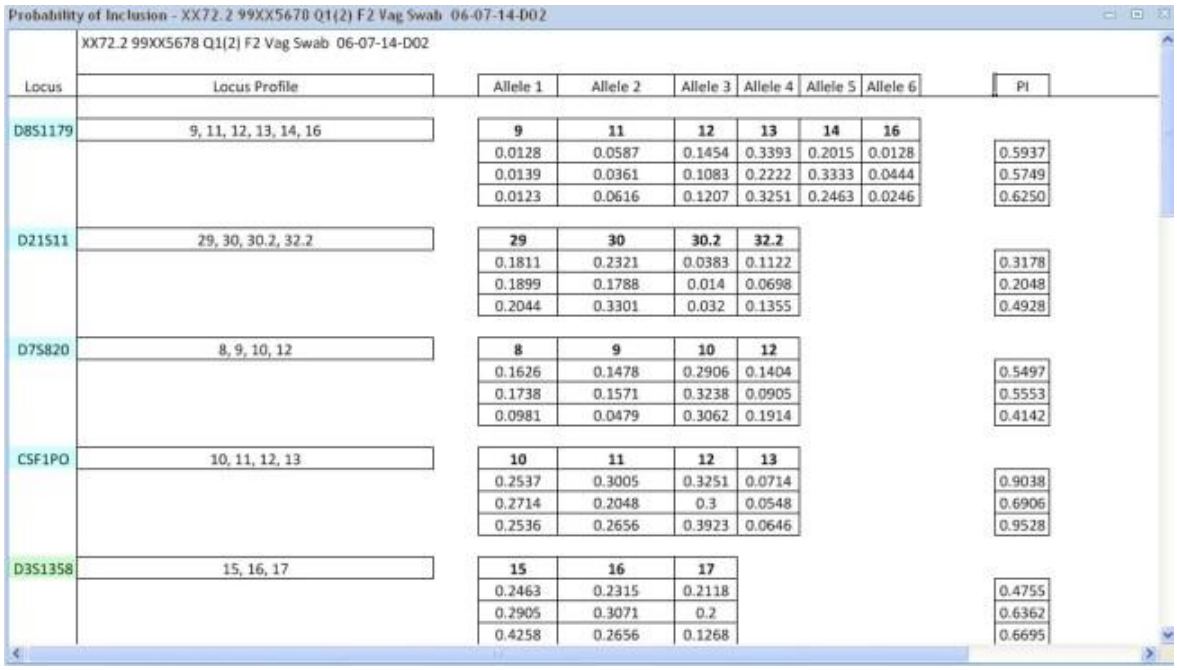
The calculations by ethnicity for the entire profile will appear at the bottom of the page. The calculations are shown in both exponential and alphanumeric form.



D5S818	9, 12	**9**	**12**				0.8520	0.1480
		0.0308	0.3539				0.8635	0.1365
		0.0139	0.3556				0.8811	0.1189
		0.0542	0.2906					
FGA	22, 22.2, 24, 25	**22**	**22.2**	**24**	**25**			
		0.1888	0.0128	0.1378	0.0689		0.8333	0.1667
		0.225	0.0139	0.1861	0.1		0.7244	0.2756
		0.1773	0.0123	0.1256	0.1379		0.7947	0.2053
	Caucasian	1 in... 3.9534E+7 (39.5 Million)						
	Black	1 in... 1.8501E+9 (1.85 Billion)						
	Hispanic	1 in... 2.9496E+8 (294 Million)						
	Sources:							
	FBI							

FIGURE 7.53 Bottom of the Probability of Inclusion Page

If you would like the CPI to show only, click on the column contained the CPE. Hit the F5 key. The CPE column will be hidden. Hit the F6 key to make the column to reappear. The image below is an example of the page displaying the CPI only.



Probability of Inclusion - XX72.2 99XX5670 Q1(2) F2 Vag Swab 06-07-14-D02

XX72.2 99XX5678 Q1(2) F2 Vag Swab 06-07-14-D02

Locus	Locus Profile	Allele 1	Allele 2	Allele 3	Allele 4	Allele 5	Allele 6	PI
D8S1179	9, 11, 12, 13, 14, 16	**9**	**11**	**12**	**13**	**14**	**16**	
		0.0128	0.0587	0.1454	0.3393	0.2015	0.0128	0.5937
		0.0139	0.0361	0.1083	0.2222	0.3333	0.0444	0.5749
		0.0123	0.0616	0.1207	0.3251	0.2463	0.0246	0.6250
D21S11	29, 30, 30.2, 32.2	**29**	**30**	**30.2**	**32.2**			
		0.1811	0.2321	0.0383	0.1122			0.3178
		0.1899	0.1788	0.014	0.0698			0.2048
		0.2044	0.3301	0.032	0.1355			0.4928
D7S820	8, 9, 10, 12	**8**	**9**	**10**	**12**			
		0.1626	0.1478	0.2906	0.1404			0.5497
		0.1738	0.1571	0.3238	0.0905			0.5553
		0.0981	0.0479	0.3062	0.1914			0.4142
CSF1PO	10, 11, 12, 13	**10**	**11**	**12**	**13**			
		0.2537	0.3005	0.3251	0.0714			0.9038
		0.2714	0.2048	0.3	0.0548			0.6906
		0.2536	0.2656	0.3923	0.0646			0.9528
D3S1358	15, 16, 17	**15**	**16**	**17**				
		0.2463	0.2315	0.2118				0.4755
		0.2905	0.3071	0.2				0.6362
		0.4258	0.2656	0.1268				0.6695

FIGURE 7.54 CPI only displayed

The fourth type of frequency calculations is a **RMP** calculation. It is used to perform frequency calculations on a two or three-person mixture sample. To obtain the RMP page, click on the RMP button. The Select/Pick via mouse window will appear. Select the sample you wish to perform the calculations on with your mouse or click on the ▼arrow and select from the drop down list.

The RMP page will display. All loci and their corresponding alleles are imported into the page. On the left half of the screen is each locus with each corresponding allele(s) with the calculations for each allele by ethnicity. On the right half of the screen, you can see the calculation of any allele combination.

If any of the locus has more than alleles then is possible for the number of indicated contributors, it will be highlighted yellow to warn you that the number of contributors may be wrong. The section on the bottom of the page is where you indicate the number of contributors. Use the up and down arrow to alternate from 1, 2, and 3.

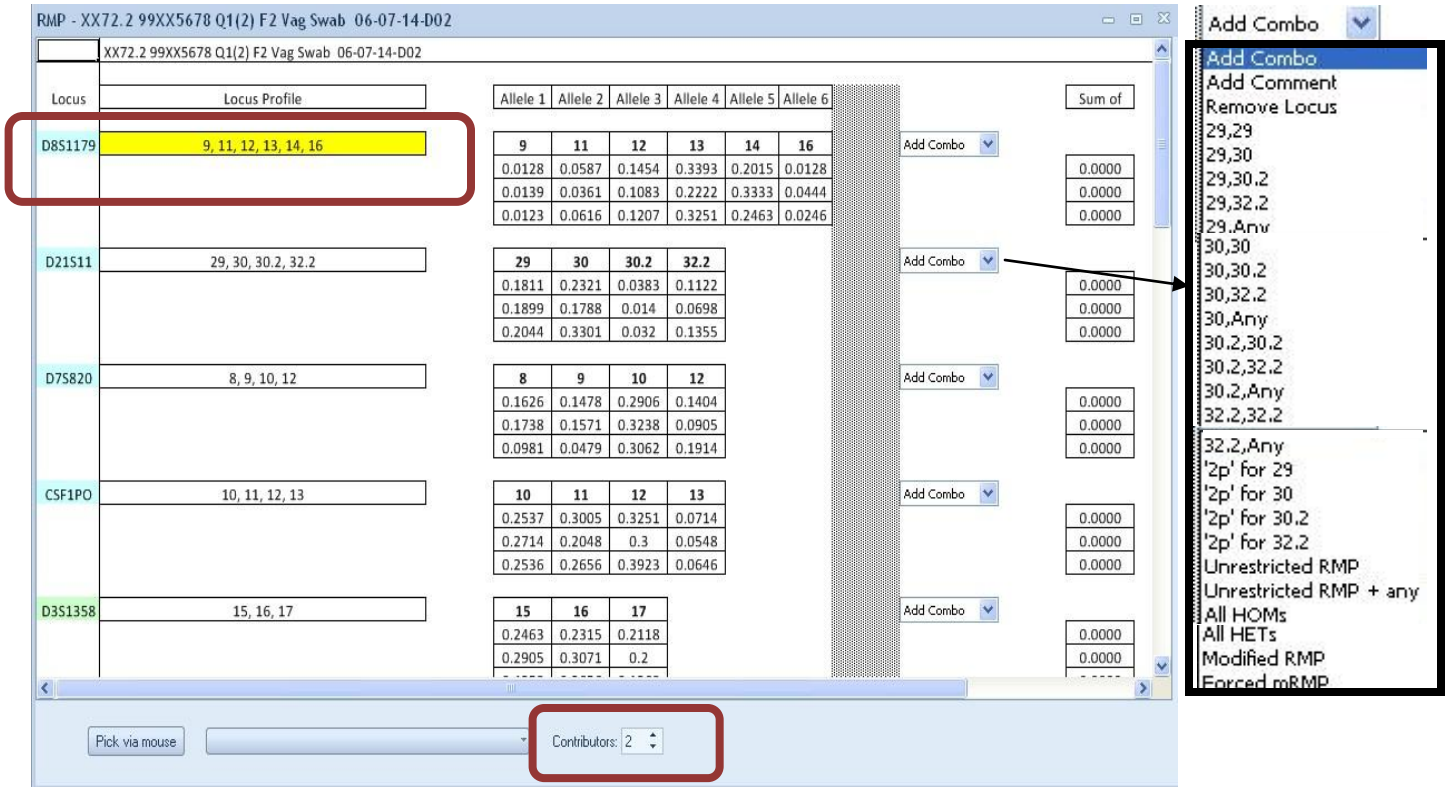


FIGURE 7.55 Adding a combination to the Mixture Frequency Page

At the first allele, click the arrow next to "Add Combo" box to bring down the available allele combination drop down list. Select the appropriate combination and ArmedXpert will automatically fill in the calculations for that allele combination. The drop down list gives you all possible combinations as well as various RMP (Random Match Probability) and '2p' options, as well as a remove locus and add comment option.

Note: If a RMP or '2p' option is chosen, no other combinations can be added for that locus. When completed, the "Add Combo" box will appear in the next column. Add all combinations that are necessary to perform the calculation. Continue this process for each locus listed.

➧ **Note:** The "Sum of" column will change with each added combination.

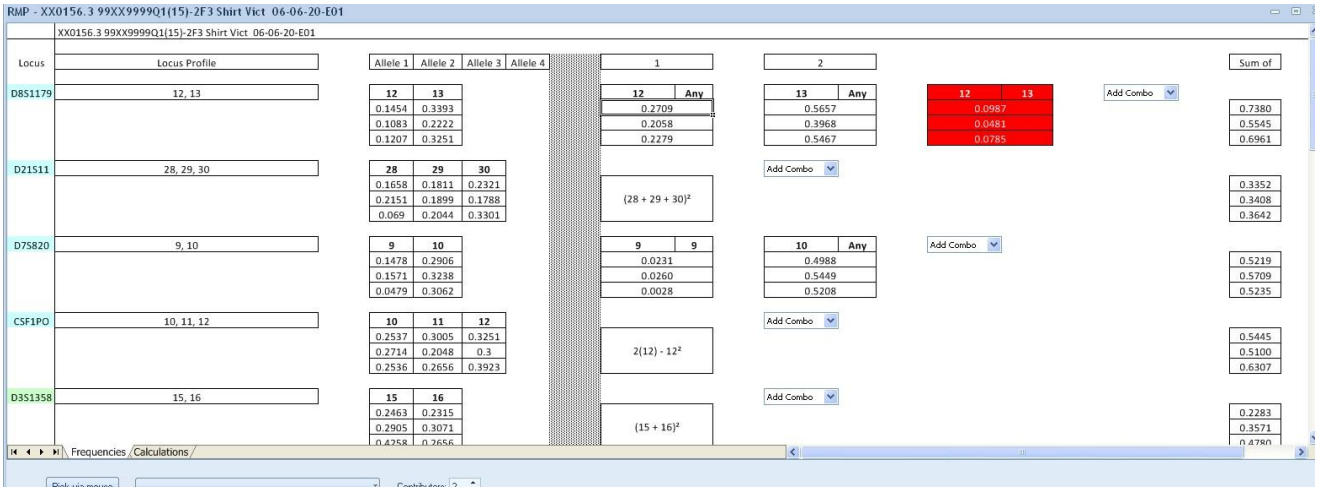


FIGURE 7.56 An Example of different choices made in an RMP report

To remove a combination, place your mouse over the combination. The combination will appear gray and will have a red line through it as shown below. Double click on the box and it will be removed. It can be added back at any time.

FIGURE 7.57 Removal of Combination

When either one of the RMP combos or the '2p' combos are chosen, the math used will appear in blue next to the combo when you have your mouse over the combo as shown below. Click on any of the ⊞ left of the ethnicity and the math for that type will be shown.

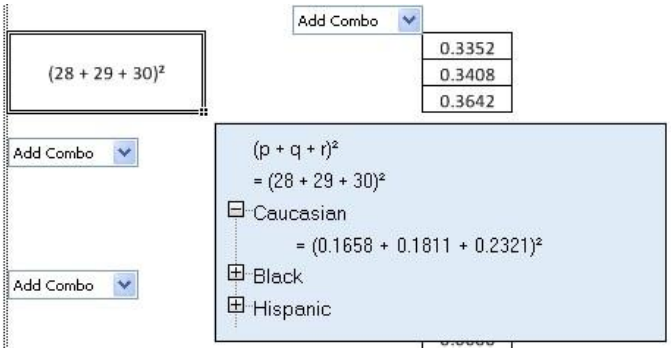


FIGURE 7.58 Math shown

You can also see the math calculations for all combinations, by clicking on the calculations tab on the bottom of the page.

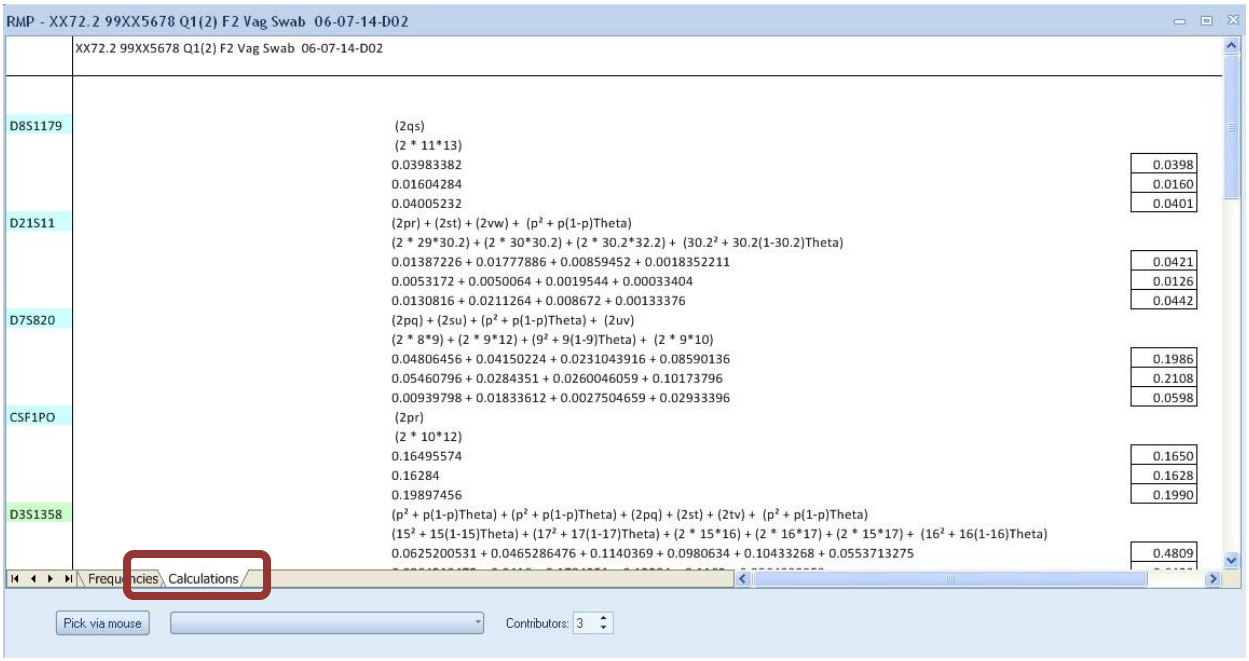


FIGURE 7.59 Calculations Page

You can automatically add a sample to the Mixture Page. Go the bottom of the window, either click on the Pick via mouse button and select your reference or click on the ▼arrow and select the sample from the drop down list of samples. This will automatically fill in the allele combinations for that sample and all calculations will be done automatically.

FIGURE 7.60 Bottom Portion of Mixture Window

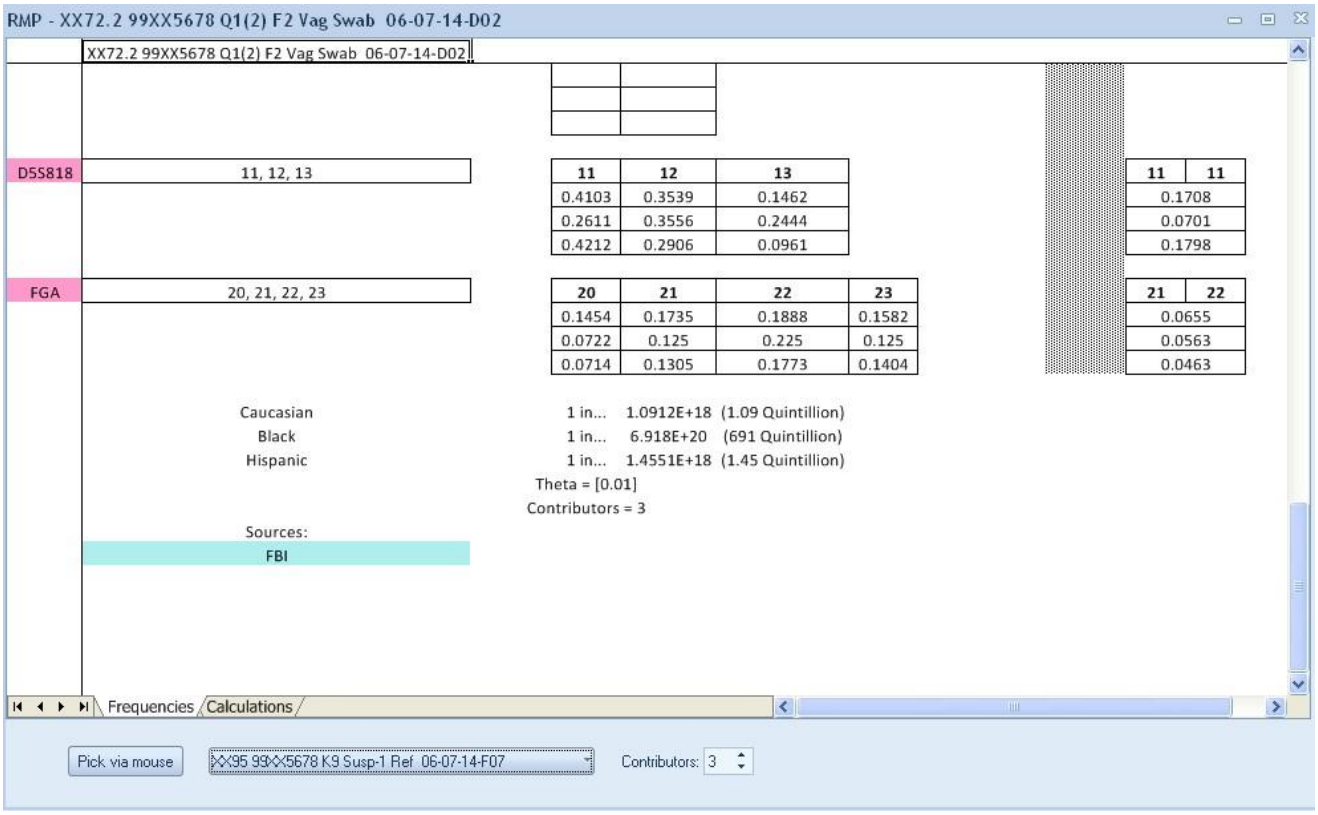


FIGURE 7.61 Example of a 3 Person Mixture with a Sample added automatically

As with all of the pages, the calculation for the each ethnicity for the entire profile is located at the bottom of the page. The calculations are shown in both exponential and alphanumeric form.

Chapter 8

Tab Six – Reporting

The Reporting tab is used to run the available reports. It has seven selections: **C.D. Form**, **Total Data**, **Sample Comparison**, **CMF**, **PHR Report, Template Report, and User Defined**. This chapter explains each report and displays sample views of each.

FIGURE 8.1 Reporting Tab

C.D. Form

The **C.D. Form** report is the CODIS Disposition Form for CODIS Administrator. Click on C.D. Form and the window shown in Figure 8.2 will appear.

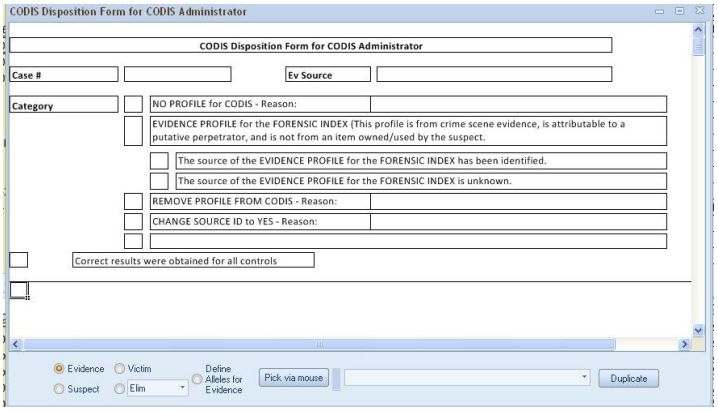

CODIS Disposition Form for CODIS Administrator
CODIS Disposition Form for CODIS Administrator
Case #
Ev Source
Category
NO PROFILE for CODIS - Reason:
EVIDENCE PROFILE for the FORENSIC INDEX (This profile is from crime scene evidence, is attributable to a putative perpetrator, and is not from an item owned/used by the suspect.
The source of the EVIDENCE PROFILE for the FORENSIC INDEX has been identified.
The source of the EVIDENCE PROFILE for the FORENSIC INDEX is unknown.
REMOVE PROFILE FROM CODIS - Reason:
CHANGE SOURCE ID to YES - Reason:
Correct results were obtained for all controls
Evidence
Victim
Suspect
Elim
Define Alleles for Evidence
Pick via mouse
Duplicate

FIGURE 8.2 CODIS Disposition Form Window

Fill in the top portion of the screen, by filling in all necessary boxes. If the information filled in at the top portion of the screen will be used more than once, click on the duplicate button found at the bottom of the page. This will open up another CODIS Disposition Form Window, with the top portion of the screen fill in exactly like the original one.

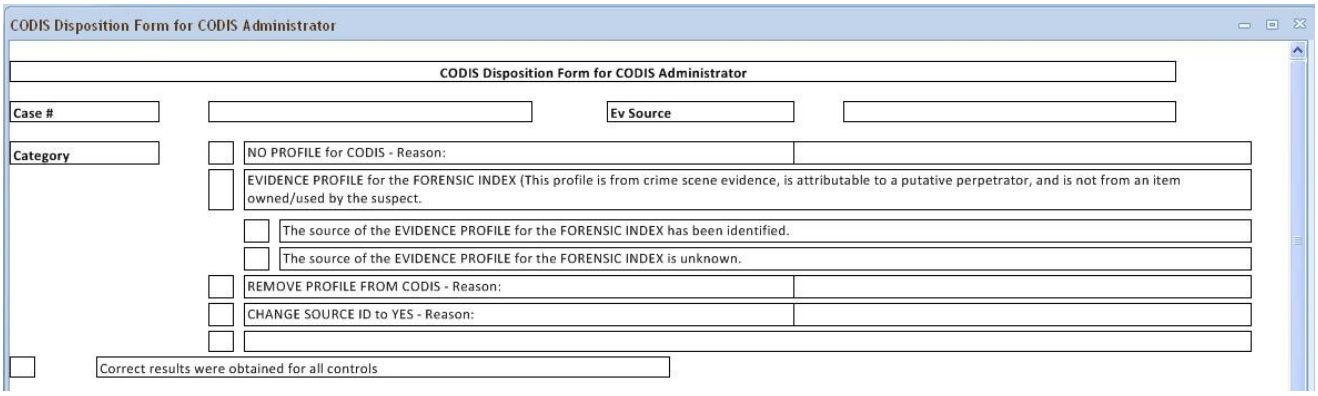

CODIS Disposition Form for CODIS Administrator
CODIS Disposition Form for CODIS Administrator
Case #
Ev Source
Category
NO PROFILE for CODIS - Reason:
EVIDENCE PROFILE for the FORENSIC INDEX (This profile is from crime scene evidence, is attributable to a putative perpetrator, and is not from an item owned/used by the suspect.
The source of the EVIDENCE PROFILE for the FORENSIC INDEX has been identified.
The source of the EVIDENCE PROFILE for the FORENSIC INDEX is unknown.
REMOVE PROFILE FROM CODIS - Reason:
CHANGE SOURCE ID to YES - Reason:
Correct results were obtained for all controls

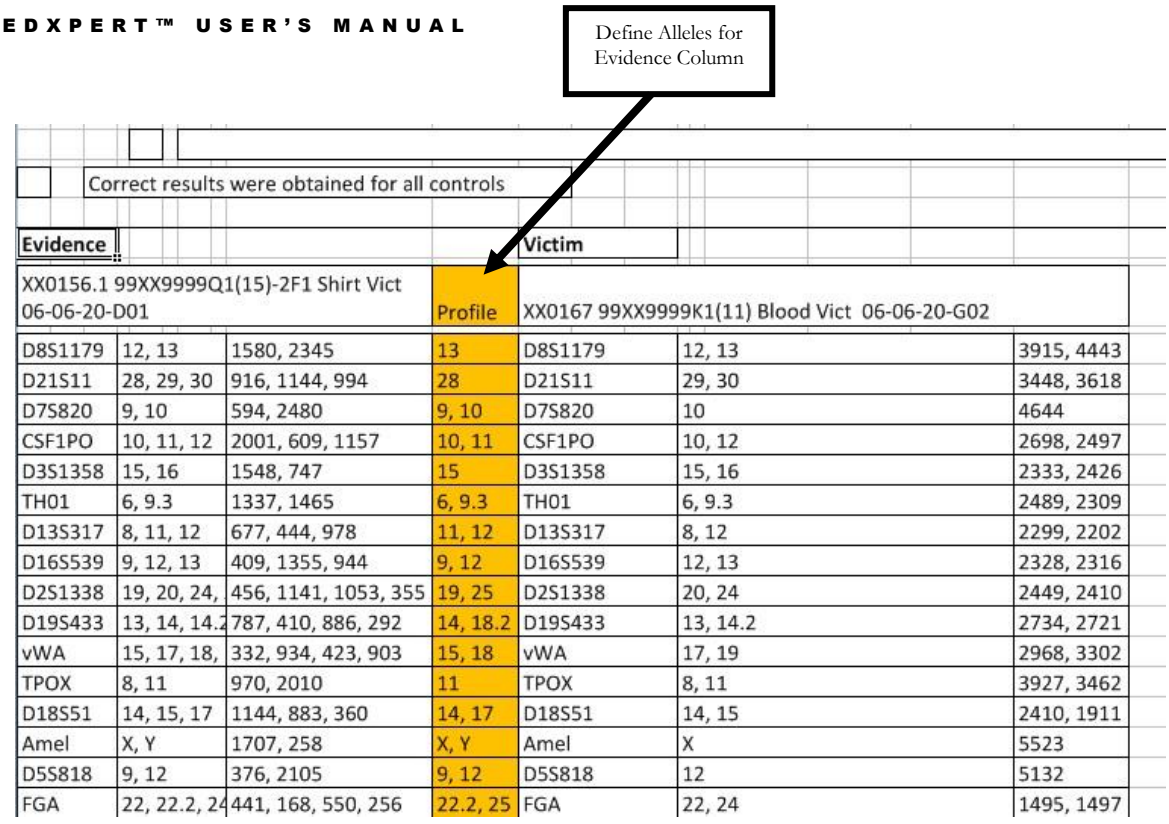
FIGURE 8.3 Top Portion of the CODIS Disposition Form Window

Four different samples can be added to the report, Evidence, Victim, Suspect, and Elim/Suspect2 (this can be changed to either type by clicking the arrow next to Elim and choosing from the drop down list). To add a type, first click on the circle next to the type you would like to add. This will fill in the circle. The select/pick via mouse window is next to the type selections. You can use your mouse to select the sample you wish to choose or click on the ▼arrow and select the one you would like to add from the drop down list. This will fill in the information from the sample table. Continue with the next type until you finished adding all the necessary types. The Loci, Alleles, and RFU's will appear for each selected type.

Note: The different types of samples fill in the report in the order you add them. Therefore, if you want the Evidence to appear first make sure you add the evidence first to the report and so on.

FIGURE 8.4 Bottom of the CODIS Disposition Form Window

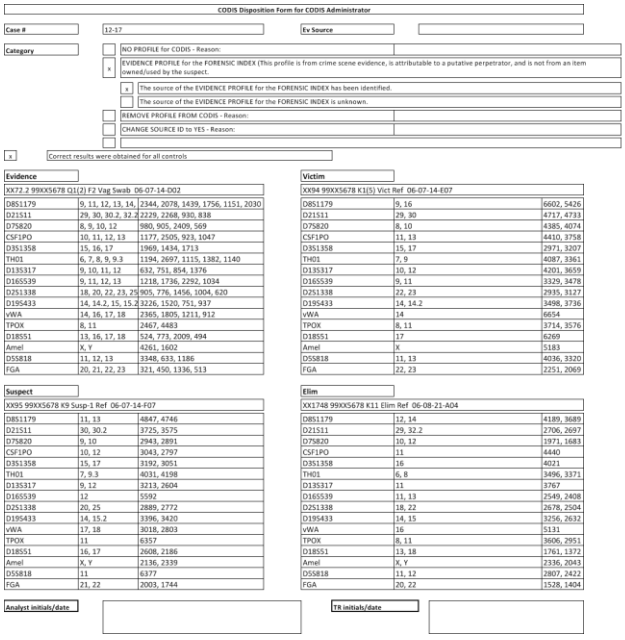
There is also a define alleles for evidence option. This adds a column of alleles next to the evidence columns that you want to send to codis. So, add your evidence first, and then click on the circle next to "Define Alleles for Evidence." Choose the sample you want to add from the Mixture Interpretation Call View Report, you created when using the Mixture Interpretation Window. It will be added in a column next to the evidence information as shown in Figure 8.5.



D8S1179	12, 13	1580, 2345	13	D8S1179	12, 13	3915, 4443
D21S11	28, 29, 30	916, 1144, 994	28	D21S11	29, 30	3448, 3618
D7S820	9, 10	594, 2480	9, 10	D7S820	10	4644
CSF1PO	10, 11, 12	2001, 609, 1157	10, 11	CSF1PO	10, 12	2698, 2497
D3S1358	15, 16	1548, 747	15	D3S1358	15, 16	2333, 2426
TH01	6, 9.3	1337, 1465	6, 9.3	TH01	6, 9.3	2489, 2309
D13S317	8, 11, 12	677, 444, 978	11, 12	D13S317	8, 12	2299, 2202
D16S539	9, 12, 13	409, 1355, 944	9, 12	D16S539	12, 13	2328, 2316
D2S1338	19, 20, 24,	456, 1141, 1053, 355	19, 25	D2S1338	20, 24	2449, 2410
D19S433	13, 14, 14.2	787, 410, 886, 292	14, 18.2	D19S433	13, 14.2	2734, 2721
vWA	15, 17, 18,	332, 934, 423, 903	15, 18	vWA	17, 19	2968, 3302
TPOX	8, 11	970, 2010	11	TPOX	8, 11	3927, 3462
D18S51	14, 15, 17	1144, 883, 360	14, 17	D18S51	14, 15	2410, 1911
Amel	X, Y	1707, 258	X, Y	Amel	X	5523
D5S818	9, 12	376, 2105	9, 12	D5S818	12	5132
FGA	22, 22.2, 24	441, 168, 550, 256	22.2, 25	FGA	22, 24	1495, 1497

FIGURE 8.5 Define Alleles for Evidence

On the bottom of the form is a place for the analyst to initial and date as well as a place for the tech reviewer to initial and date.



CODIS Disposition Form for CODIS Administrator

Case # 12-17 Ev Source

Category

- NO PROFILE for CODIS - Reason:
- x EVIDENCE PROFILE for the FORENSIC INDEX (This profile is from crime scene evidence, is attributable to a putative perpetrator, and is not from an item owned/used by the suspect.
  - x The source of the EVIDENCE PROFILE for the FORENSIC INDEX has been identified.
  - The source of the EVIDENCE PROFILE for the FORENSIC INDEX is unknown.
- REMOVE PROFILE FROM CODIS - Reason:
- CHANGE SOURCE ID to YES - Reason:

x Correct results were obtained for all controls

Evidence — XX72.2 99XX5678 Q1(2) F2 Vag Swab 06-07-14-D02

D8S1179	9, 11, 12, 13, 14,	2344, 2078, 1439, 1756, 1151, 2030
D21S11	29, 30, 30.2, 32.2	2229, 2268, 930, 838
D7S820	8, 9, 10, 12	980, 905, 2409, 569
CSF1PO	10, 11, 12, 13	1177, 2505, 923, 1047
D3S1358	15, 16, 17	1969, 1434, 1713
TH01	6, 7, 8, 9, 9.3	1194, 2697, 1115, 1382, 1140
D13S317	9, 10, 11, 12	632, 751, 854, 1376
D16S539	9, 11, 12, 13	1218, 1736, 2292, 1034
D2S1338	18, 20, 22, 23, 25	905, 776, 1456, 1004, 620
D19S433	14, 14.2, 15, 15.2	3226, 1520, 751, 937
vWA	14, 16, 17, 18	2365, 1805, 1211, 912
TPOX	8, 11	2467, 4483
D18S51	13, 16, 17, 18	524, 773, 2009, 494
Amel	X, Y	4261, 1602
D5S818	11, 12, 13	3348, 633, 1186
FGA	20, 21, 22, 23	321, 450, 1336, 513

Victim — XX94 99XX5678 K1(5) Vict Ref 06-07-14-E07

D8S1179	9, 16	6602, 5426
D21S11	29, 30	4717, 4733
D7S820	8, 10	4385, 4074
CSF1PO	11, 13	4410, 3758
D3S1358	15, 17	2971, 3207
TH01	7, 9	4087, 3361
D13S317	10, 12	4201, 3659
D16S539	9, 11	3329, 3478
D2S1338	22, 23	2935, 3127
D19S433	14, 14.2	3498, 3736
vWA	14	6654
TPOX	8, 11	3714, 3576
D18S51	17	6269
Amel	X	5183
D5S818	11, 13	4036, 3320
FGA	22, 23	2251, 2069

Suspect — XX95 99XX5678 K9 Susp-1 Ref 06-07-14-F07

D8S1179	11, 13	4847, 4746
D21S11	30, 30.2	3725, 3575
D7S820	9, 10	2943, 2891
CSF1PO	10, 12	3043, 2797
D3S1358	15, 17	3192, 3051
TH01	7, 9.3	4031, 4198
D13S317	9, 12	3213, 2604
D16S539	12	5592
D2S1338	20, 25	2889, 2772
D19S433	14, 15.2	3396, 3420
vWA	17, 18	3018, 2803
TPOX	11	6357
D18S51	16, 17	2608, 2186
Amel	X, Y	2136, 2339
D5S818	11	6377
FGA	21, 22	2003, 1744

Elim — XX1748 99XX5678 K11 Elim Ref 06-08-21-A04

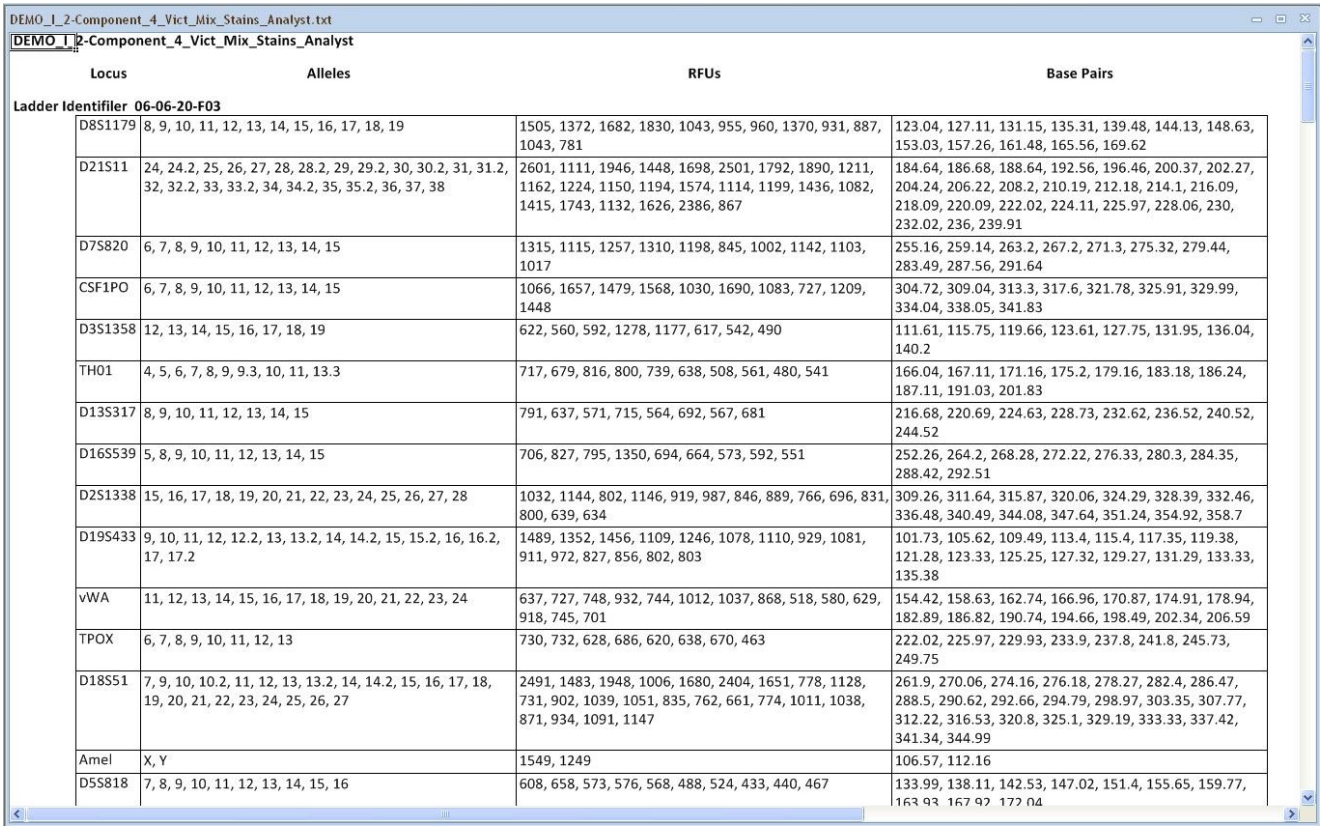
D8S1179	12, 14	4189, 3689
D21S11	29, 32.2	2706, 2697
D7S820	10, 12	1971, 1683
CSF1PO	11	4440
D3S1358	16	4021
TH01	6, 8	3496, 3371
D13S317	11	3767
D16S539	11, 13	2549, 2408
D2S1338	18, 22	2678, 2504
D19S433	14, 15	3256, 2632
vWA	16	5131
TPOX	8, 11	3606, 2951
D18S51	13, 18	1761, 1372
Amel	X, Y	2336, 2043
D5S818	11, 12	2807, 2422
FGA	20, 22	1528, 1404

Analyst initials/date TR initials/date

FIGURE 8.6 CODIS Disposition Form filled out

Total Data

The **Total Data** report is a report that gives you all of the information from a sample table. It lists the alleles, RFU values, and Base Pairs values for each sample on the sample table by locus. To run the report, have the sample table that you want to see the total data for open and in front of all open windows, and click on the "Total Data" button.



DEMO_I_2-Component_4_Vict_Mix_Stains_Analyst.txt

DEMO_I_2-Component_4_Vict_Mix_Stains_Analyst

Locus	Alleles	RFUs	Base Pairs
Ladder Identifiler 06-06-20-F03			
D8S1179	8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	1505, 1372, 1682, 1830, 1043, 955, 960, 1370, 931, 887, 1043, 781	123.04, 127.11, 131.15, 135.31, 139.48, 144.13, 148.63, 153.03, 157.26, 161.48, 165.56, 169.62
D21S11	24, 24.2, 25, 26, 27, 28, 28.2, 29, 29.2, 30, 30.2, 31, 31.2, 32, 32.2, 33, 33.2, 34, 34.2, 35, 35.2, 36, 37, 38	2601, 1111, 1946, 1448, 1698, 2501, 1792, 1890, 1211, 1162, 1224, 1150, 1194, 1574, 1114, 1199, 1436, 1082, 1415, 1743, 1132, 1626, 2386, 867	184.64, 186.68, 188.64, 192.56, 196.46, 200.37, 202.27, 204.24, 206.22, 208.2, 210.19, 212.18, 214.1, 216.09, 218.09, 220.09, 222.02, 224.11, 225.97, 228.06, 230, 232.02, 236, 239.91
D7S820	6, 7, 8, 9, 10, 11, 12, 13, 14, 15	1315, 1115, 1257, 1310, 1198, 845, 1002, 1142, 1103, 1017	255.16, 259.14, 263.2, 267.2, 271.3, 275.32, 279.44, 283.49, 287.56, 291.64
CSF1PO	6, 7, 8, 9, 10, 11, 12, 13, 14, 15	1066, 1657, 1479, 1568, 1030, 1690, 1083, 727, 1209, 1448	304.72, 309.04, 313.3, 317.6, 321.78, 325.91, 329.99, 334.04, 338.05, 341.83
D3S1358	12, 13, 14, 15, 16, 17, 18, 19	622, 560, 592, 1278, 1177, 617, 542, 490	111.61, 115.75, 119.66, 123.61, 127.75, 131.95, 136.04, 140.2
TH01	4, 5, 6, 7, 8, 9, 9.3, 10, 11, 13.3	717, 679, 816, 800, 739, 638, 508, 561, 480, 541	166.04, 167.11, 171.16, 175.2, 179.16, 183.18, 186.24, 187.11, 191.03, 201.83
D13S317	8, 9, 10, 11, 12, 13, 14, 15	791, 637, 571, 715, 564, 692, 567, 681	216.68, 220.69, 224.63, 228.73, 232.62, 236.52, 240.52, 244.52
D16S539	5, 8, 9, 10, 11, 12, 13, 14, 15	706, 827, 795, 1350, 694, 664, 573, 592, 551	252.26, 264.2, 268.28, 272.22, 276.33, 280.3, 284.35, 288.42, 292.51
D2S1338	15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28	1032, 1144, 802, 1146, 919, 987, 846, 889, 766, 696, 831, 800, 639, 634	309.26, 311.64, 315.87, 320.06, 324.29, 328.39, 332.46, 336.48, 340.49, 344.08, 347.64, 351.24, 354.92, 358.7
D19S433	9, 10, 11, 12, 12.2, 13, 13.2, 14, 14.2, 15, 15.2, 16, 16.2, 17, 17.2	1489, 1352, 1456, 1109, 1246, 1078, 1110, 929, 1081, 911, 972, 827, 856, 802, 803	101.73, 105.62, 109.49, 113.4, 115.4, 117.35, 119.38, 121.28, 123.33, 125.25, 127.32, 129.27, 131.29, 133.33, 135.38
vWA	11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24	637, 727, 748, 932, 744, 1012, 1037, 868, 518, 580, 629, 918, 745, 701	154.42, 158.63, 162.74, 166.96, 170.87, 174.91, 178.94, 182.89, 186.82, 190.74, 194.66, 198.49, 202.34, 206.59
TPOX	6, 7, 8, 9, 10, 11, 12, 13	730, 732, 628, 686, 620, 638, 670, 463	222.02, 225.97, 229.93, 233.9, 237.8, 241.8, 245.73, 249.75
D18S51	7, 9, 10, 10.2, 11, 12, 13, 13.2, 14, 14.2, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27	2491, 1483, 1948, 1006, 1680, 2404, 1651, 778, 1128, 731, 902, 1039, 1051, 835, 762, 661, 774, 1011, 1038, 871, 934, 1091, 1147	261.9, 270.06, 274.16, 276.18, 278.27, 282.4, 286.47, 288.5, 290.62, 292.66, 294.79, 298.97, 303.35, 307.77, 312.22, 316.53, 320.8, 325.1, 329.19, 333.33, 337.42, 341.34, 344.99
Amel	X, Y	1549, 1249	106.57, 112.16
D5S818	7, 8, 9, 10, 11, 12, 13, 14, 15, 16	608, 658, 573, 576, 568, 488, 524, 433, 440, 467	133.99, 138.11, 142.53, 147.02, 151.4, 155.65, 159.77, 163.93, 167.92, 172.04

FIGURE 8.7 Total Data Report

Samples Comparison

The **Samples Comparison** compares one table against another or itself. It can compare one table to a profiles table like a staff profile. It also can run match and compare reports. This report is useful in comparing your staff profile table to a sample table to confirm that there was no contamination. This can run the same report that runs automatically if you have "Compare tables to profiles types selected below upon opening" checked in the Reporting section of the ArmedXpert Options menu.

In the box marked reference, click on the ▼arrow and a drop down list of all your open sample tables will appear. Choose the sample table you would like to compare to. In the next box, choose the table you would like to compare against.

Enter the minimum number of total and exact matches you would like to show on the report and the minimum number of included matches. To show all included, set the minimum number of included to -1 as shown below. Then select the options you would like to run as well. The "**Only compare other samples**" option will only compare samples not controls. The "**Create match/compare reports**" option runs match and comparison reports that can be retrieved by clicking on the different worksheets at the bottom of the report. The "**List unmatched samples**" option will allow you to either list all samples whether matched or not or only list matched samples to condense the report. Finally, the "**Compare references with profile**" option allows you to compare the reference against one or more of the chosen profiles.

Click on the Match button to run the report. A report like the one in Figure 8.9 will appear.

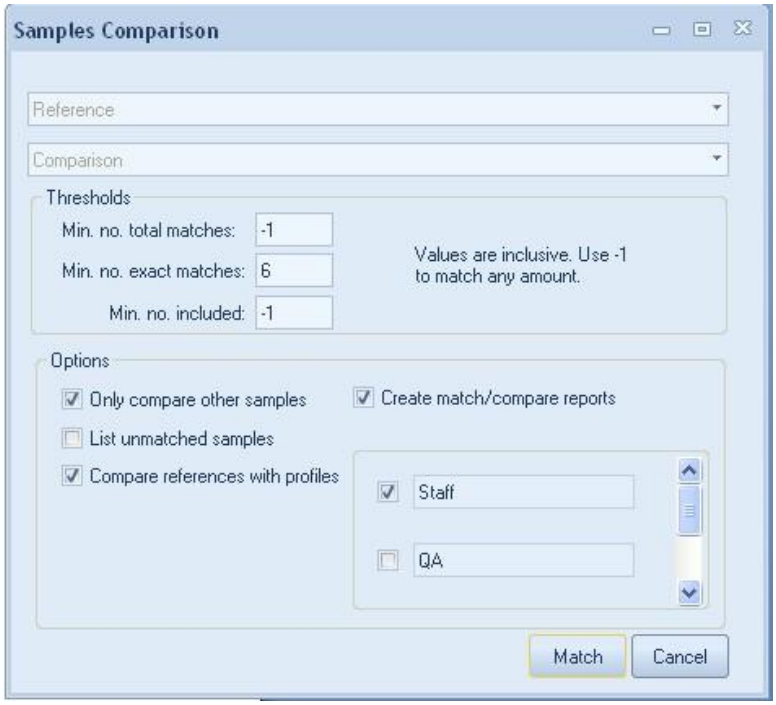
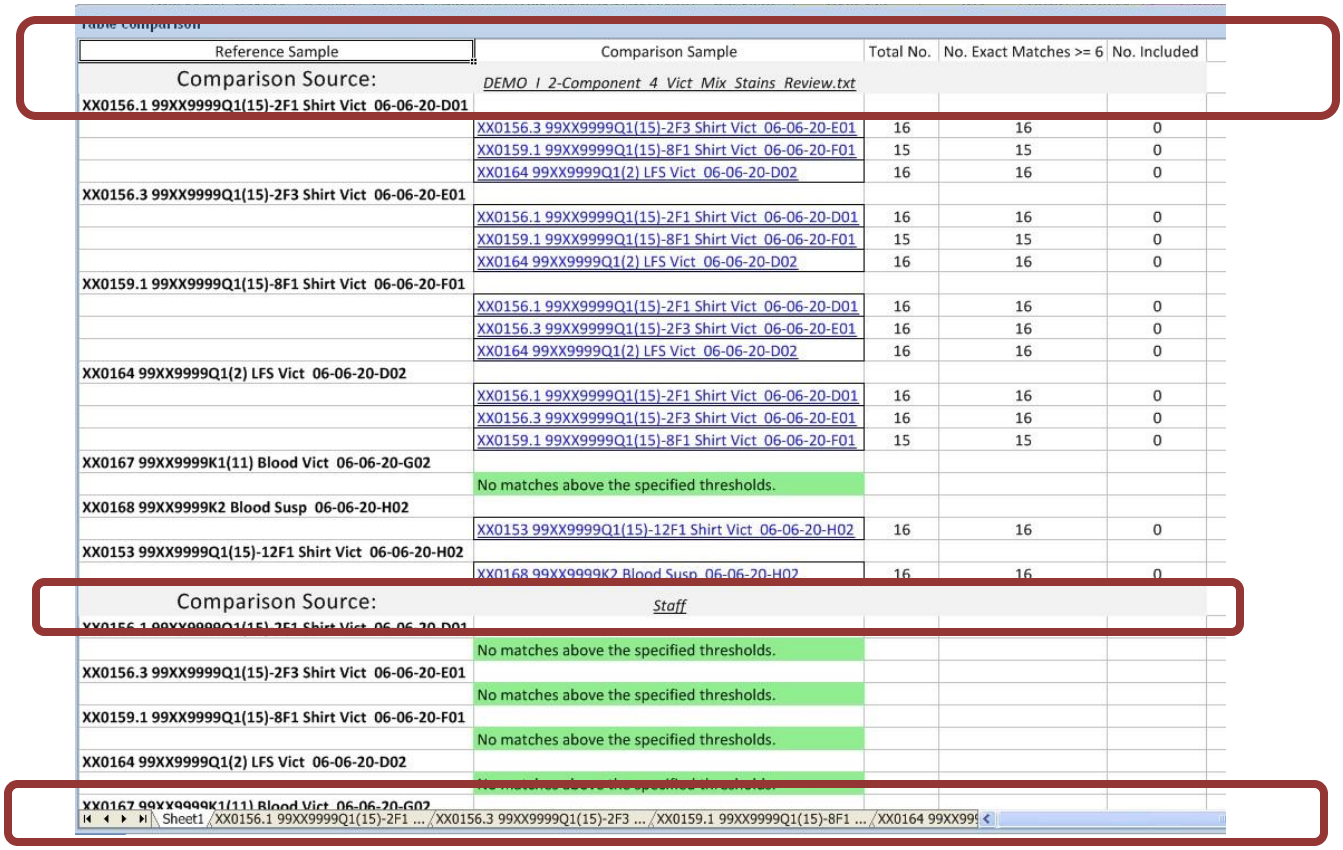


FIGURE 8.8 Samples Comparison command window

The Report lists the Reference Samples in the first column. The second column list all matched comparison samples. The third column is the total number of matches. The fourth column lists the number of exact matches equal to or greater than the user-defined amount. The final column lists the number of included matches.

The reference sample vs. the comparison sample is shown first on the report. If you compare the reference sample against a profile or profiles, they will be shown next. Any additional match and compare reports will be displayed on the additional worksheets shown at the bottom of the report. Click on a tab to display each. You can also click on any sample that it blue on the report and it will take you directly to the match and compare tab that includes that sample.



Reference Sample	Comparison Sample	Total No.	No. Exact Matches >= 6	No. Included
Comparison Source:	*DEMO I 2-Component 4 Vict Mix Stains Review.txt*			
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01				
	XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	16	16	0
	XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	15	15	0
	XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	16	16	0
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01				
	XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	16	16	0
	XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	15	15	0
	XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	16	16	0
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01				
	XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	16	16	0
	XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	16	16	0
	XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	16	16	0
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02				
	XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	16	16	0
	XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	16	16	0
	XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	15	15	0
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02				
	No matches above the specified thresholds.			
XX0168 99XX9999K2 Blood Susp 06-06-20-H02				
	XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	16	16	0
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02				
	XX0168 99XX9999K2 Blood Susp 06-06-20-H02	16	16	0
Comparison Source:	*Staff*			
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01				
	No matches above the specified thresholds.			
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01				
	No matches above the specified thresholds.			
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01				
	No matches above the specified thresholds.			
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02				
	No matches above the specified thresholds.			
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02				

Sheet1 | XX0156.1 99XX9999Q1(15)-2F1 ... | XX0156.3 99XX9999Q1(15)-2F3 ... | XX0159.1 99XX9999Q1(15)-8F1 ... | XX0164 99XX999

FIGURE 8.9 Samples Comparison Report example

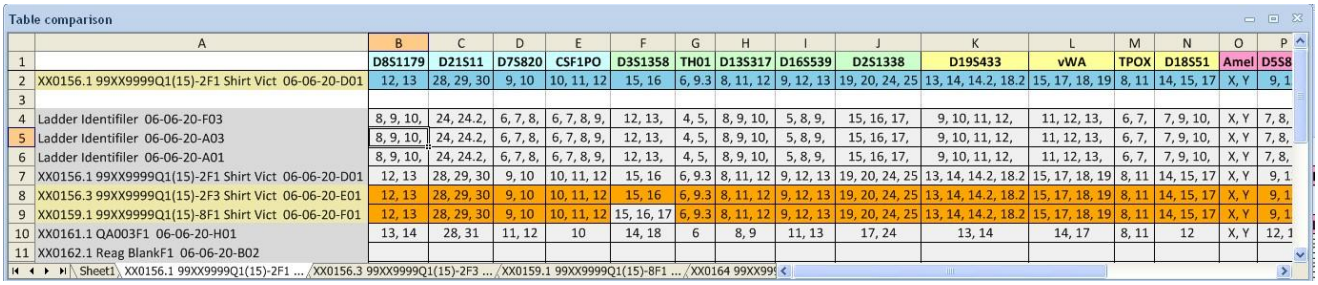


Table comparison

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1		D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S8
2	XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 1
3																
4	Ladder Identifiler 06-06-20-F03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8,
5	Ladder Identifiler 06-06-20-A03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8,
6	Ladder Identifiler 06-06-20-A01	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8,
7	XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 1
8	XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 1
9	XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16, 17	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 1
10	XX0161.1 QA003F1 06-06-20-H01	13, 14	28, 31	11, 12	10	14, 18	6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12	X, Y	12, 1
11	XX0162.1 Reag BlankF1 06-06-20-B02															

Sheet1 | XX0156.1 99XX9999Q1(15)-2F1 ... | XX0156.3 99XX9999Q1(15)-2F3 ... | XX0159.1 99XX9999Q1(15)-8F1 ... | XX0164 99XX999

FIGURE 8.10 Match and Compare additional worksheet example

CMF

The **CMF** form is the CODIS upload file. When you are ready to upload your data to CODIS, click on CMF and the CMF window will open as shown in Figure 8.11 below. Choose the CMF Version that is appropriate from the drop down list on the lower left hand side of the CMF window. The CMF Attributes on the left hand bottom of the window will change based on the version selected. Fill in the CMF Attributes. ↳ **Note**: If you filled in the default CMF Attributes in the Options Window, they will be automatically filled in the appropriate boxes.

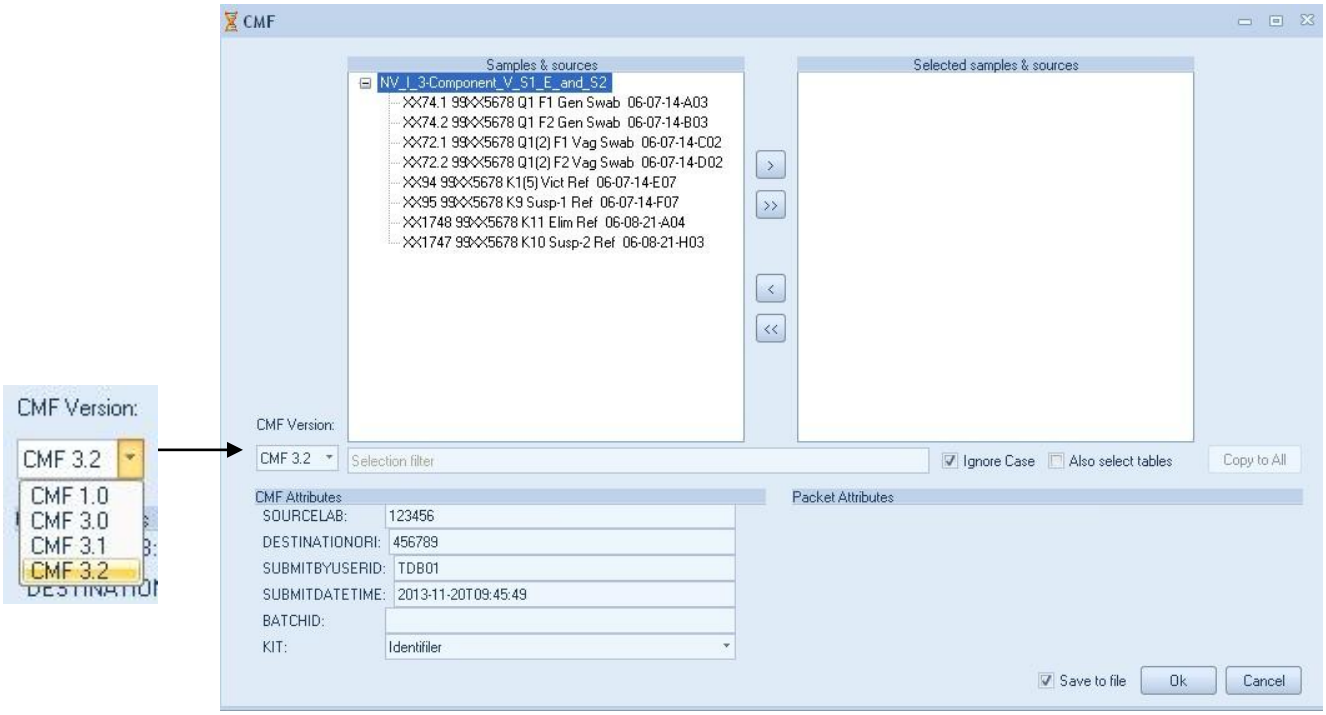


FIGURE 8.11 CMF Window

Click the ⊞ Next to the Sample Table to expand to a detailed list of all samples. Choose the Samples you would like to upload by clicking on them and clicking the > button. The samples will move to the box on the right as seen in Figure 8.12 below. You can also use the Selection Filter box to enter in a specific name and all samples containing that name will be highlighted. This is helpful in finding certain samples in a large sample table. Click the > button and all samples highlighted will move to the right hand box. Continue these steps until all necessary samples have been moved to the right box.

Once all samples have been selected, click on one of your selected samples. The Packet Attributes section on the right hand bottom of the CMF window will appear. Several of the attributes have drop down lists. Click on the arrow next to those and make the appropriate choice. All other boxes can be filled in directly. ↳ **Note**: If you would like to add additional packet attributes, go to the ArmedXpert options window to make any additions or edits to the attributes. The instructions on how to make additions or edits can be found in Chapter 2 of this manual.

If you scroll down through the Packet Attributes, you will see all of the loci and the allele(s) at each locus. All checked loci are included. If a Locus contains a Partial, add a checkmark to box located under the Partial column next to the appropriate Locus.

Proceed to the next sample until finished with all Samples. If the attributes are the same for all selected samples, click on the "Copy to All" button after you complete the attributes for the first selected sample. All attributes will be copied to all other selected samples.

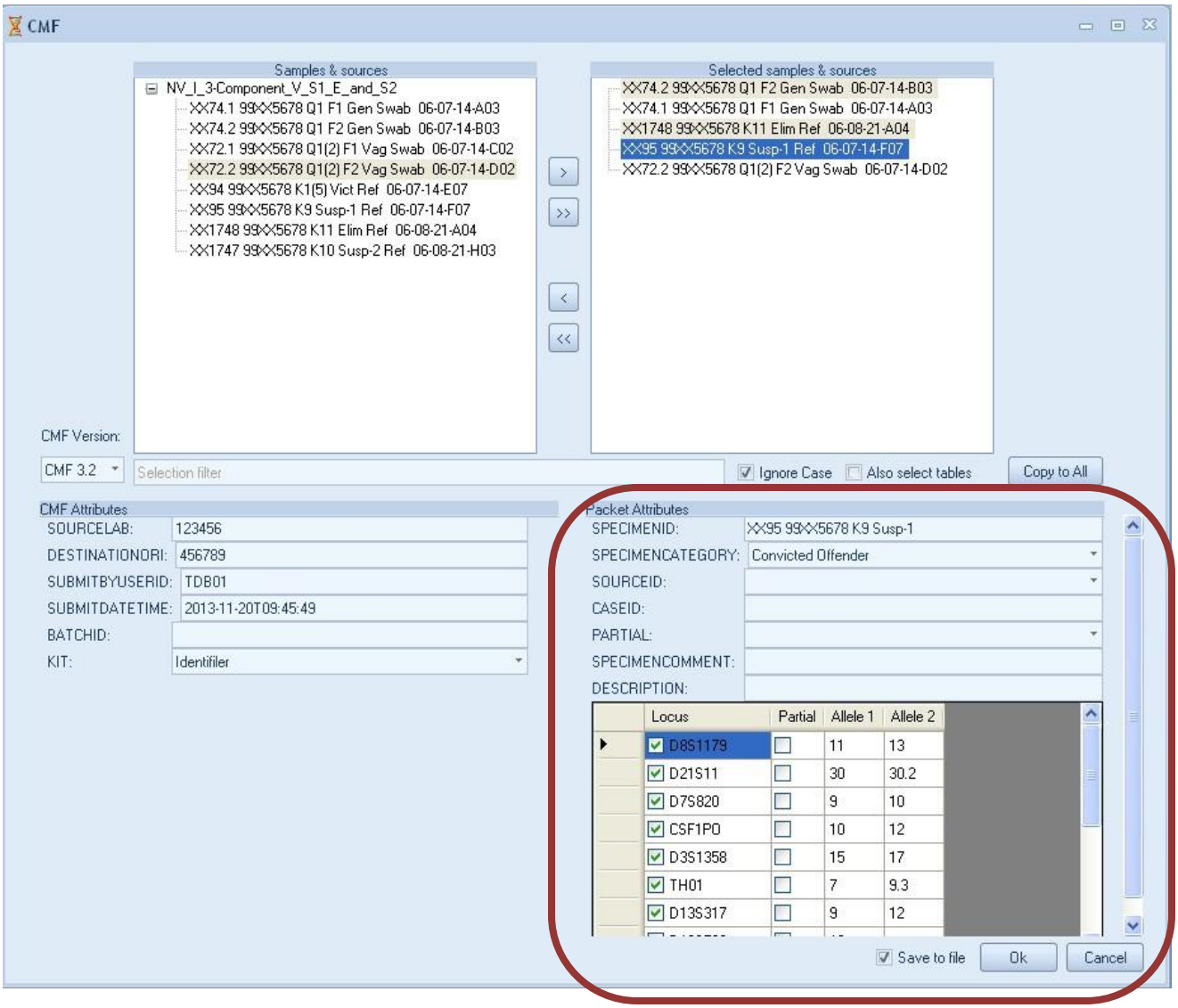


FIGURE 8.12 CMF Window Example

Click "Ok" when you are ready to save the file. The "Save As" Window will appear. In the File Name box, type in the appropriate file name. Then save it in the appropriate folder. Click the "Save" button.

PHR Report

The **PHR Report** shows all the peak height ratios (PHR) as well as the average PHR for selected table(s) or sample(s). This is useful to determine thresholds. The first step in running your PHR Report is to create dilution tables for the report. Import your dilution sample table into ArmedXpert. Once your table is imported, click on Combine Sources under the Data tab. The Combine Sources window will open.

Type in the selection filter box, the dilution you would like to create a table for. Click the > button to move all highlighted samples to the right hand box. Type in the title of the table you are creating. Click on the "Combine" button. Your new combined sample table will open.

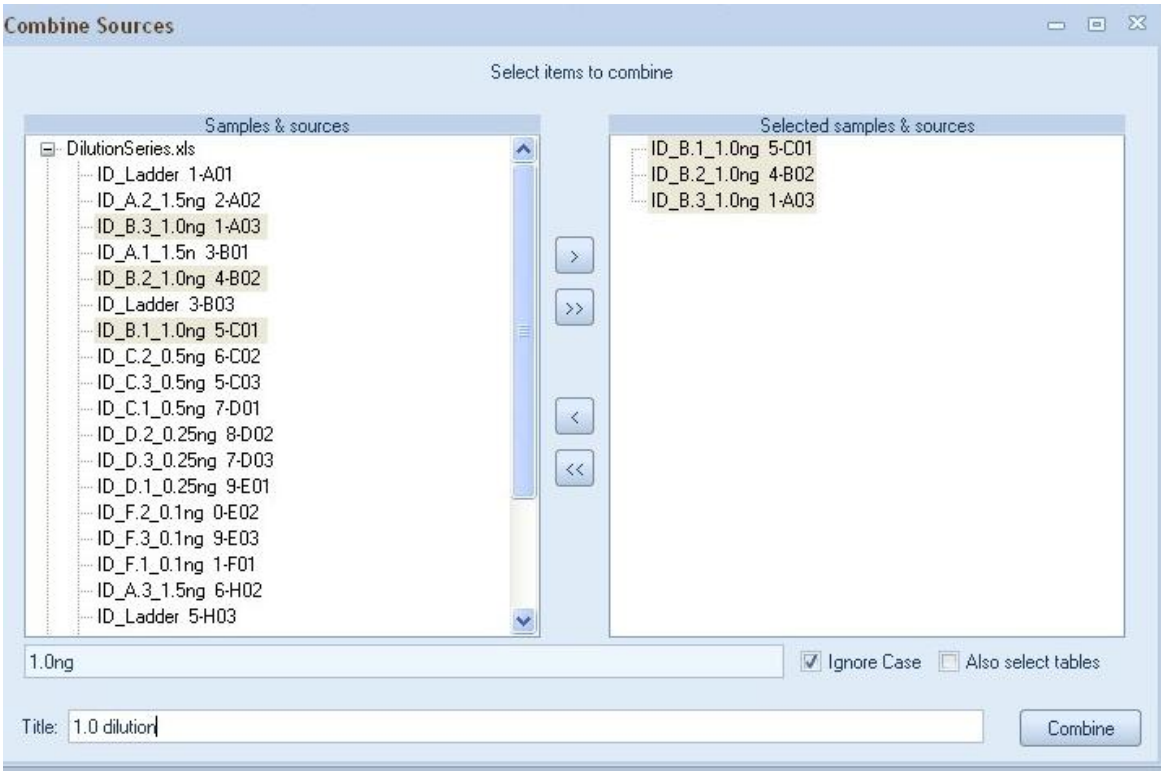


FIGURE 8.13 Combine Sources Window

In the example above, 1.0ng was entered in the selection filter box. All samples containing 1.0ng was highlighted in the box on the left hand side. They were then moved to the right hand box using the > button. 1.0 dilution was added as the Title.

Repeat the steps above to create the different dilution tables for each dilution amount you would like to see on the PHR report. Once finished, click the X on the upper right hand of the window to close the Combine Sources Window.

Note: Remove the selected samples from the right hand side using the < button before creating each new sample table.

To run the PHR Report, Click on the "PHR Report" button and the PHR Report Window will open. Click on "Add a table" button.

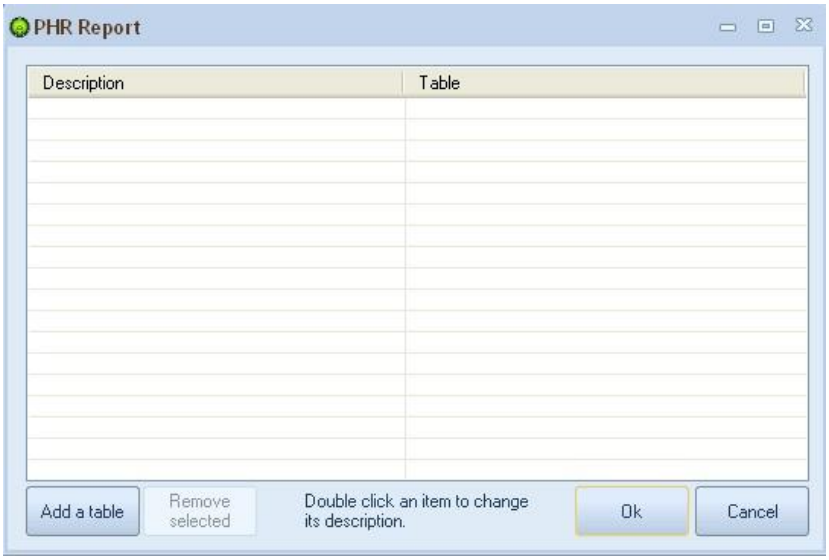


FIGURE 8.14 PHR Report Window

The Select a table Window will open. You can either select an entire table or expand the table and select individual sample(s). Click the > button to move the selected table or sample to the right side of the window.

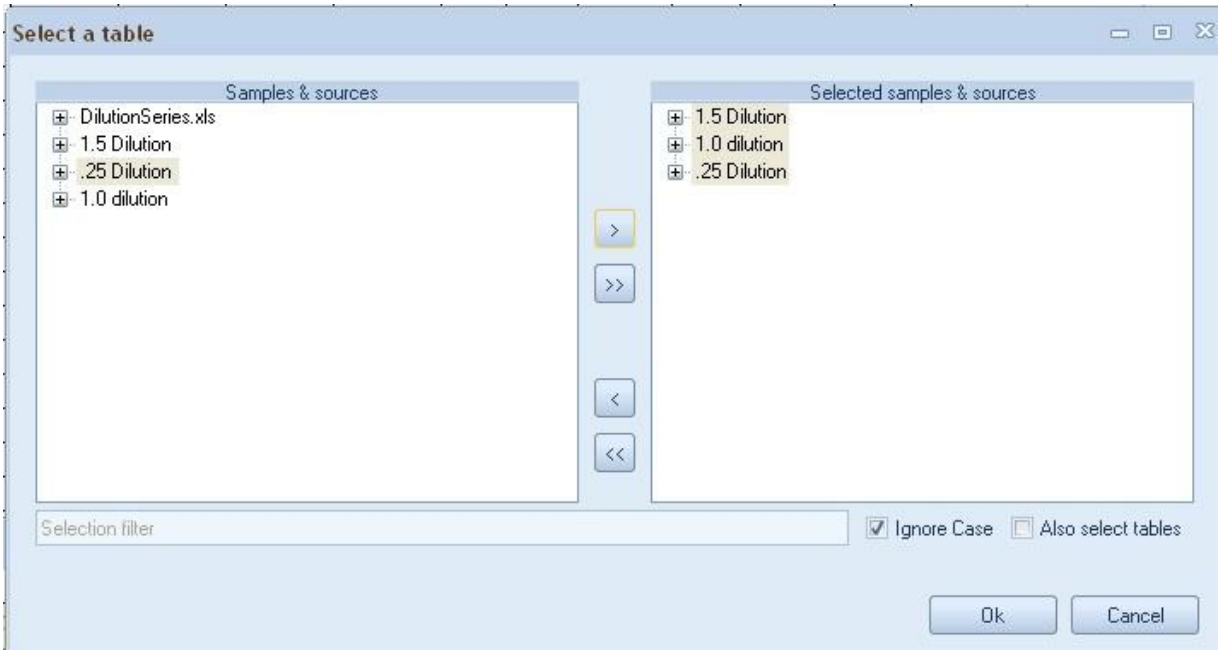


FIGURE 8.15 Select a table Window

Once all tables or samples have been selected and moved to the right side, click on the "Ok" button.

The PHR Report window will open back up. Your chosen selections will appear.

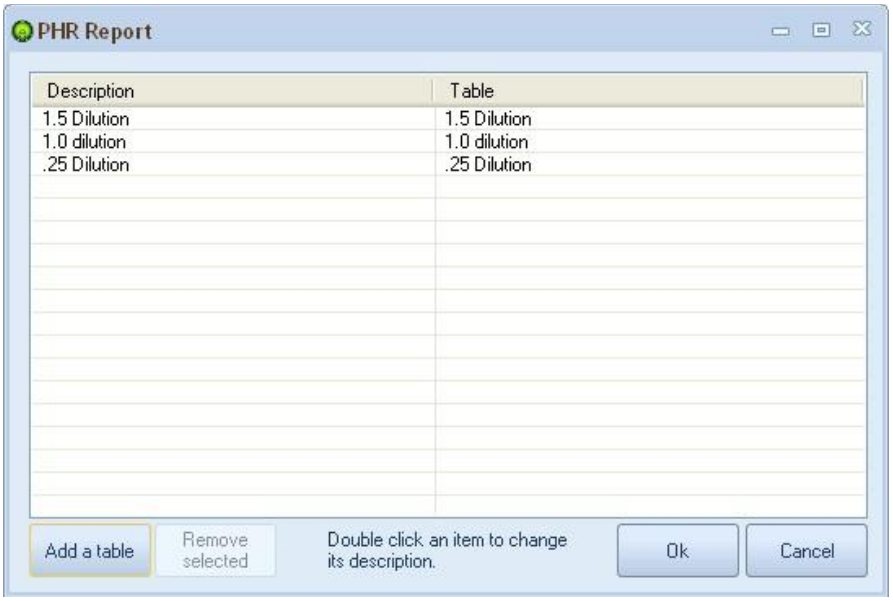


FIGURE 8.16 PHR Report Window with selections

If you would like to change any of the table's description names before you run the report, click on the table from the list shown. An Enter a description Window will open. Type in the new description and click on the "Ok" button.

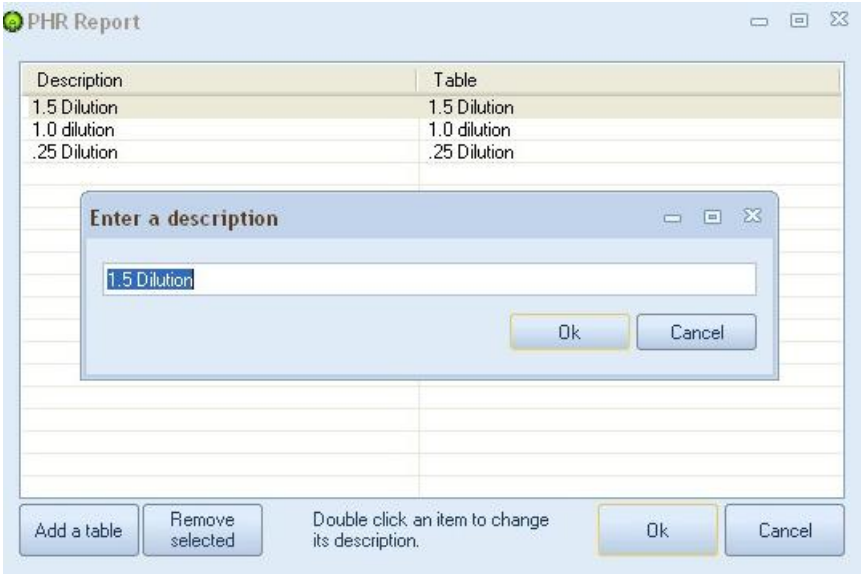
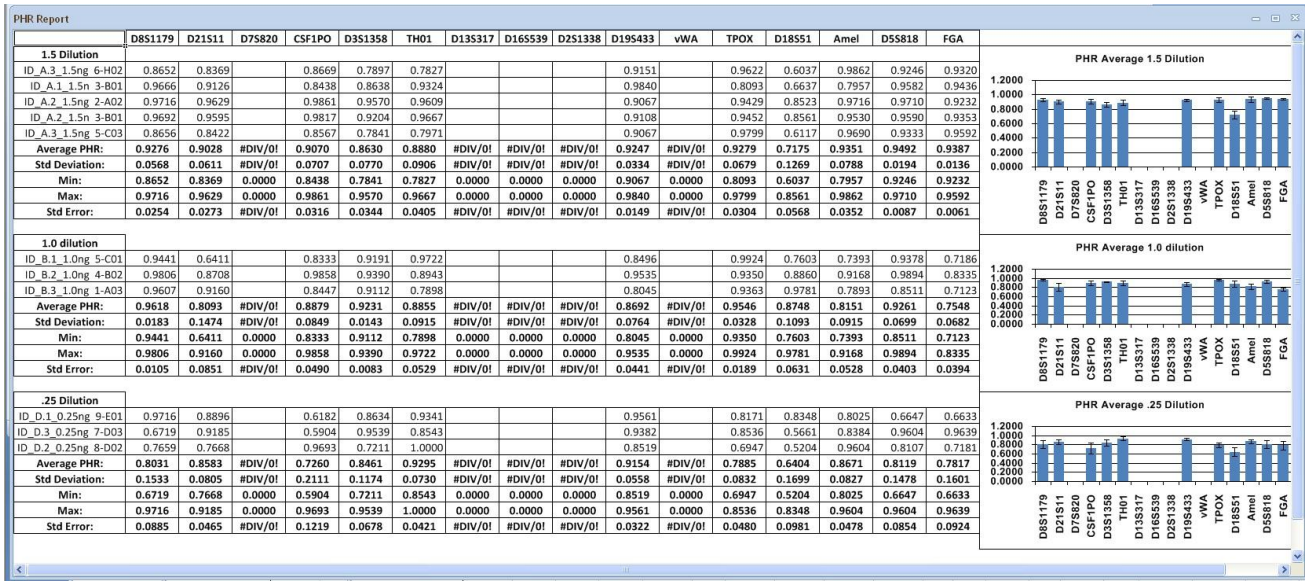


FIGURE 8.17 Enter a description Window

Once finished, click the "Ok" button to run the PHR report.

The PHR report shows the PHR at each locus for each sample chosen.



PHR Report

	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
1.5 Dilution																
ID_A.3_1.5ng 6-H02	0.8652	0.8369		0.8669	0.7897	0.7827				0.9151		0.9622	0.6037	0.9862	0.9246	0.9320
ID_A.1_1.5n 3-B01	0.9666	0.9126		0.8438	0.8638	0.9324				0.9840		0.8093	0.6637	0.7957	0.9582	0.9436
ID_A.2_1.5ng 2-A02	0.9716	0.9629		0.9861	0.9570	0.9609				0.9067		0.9429	0.8523	0.9716	0.9710	0.9232
ID_A.2_1.5n 3-B01	0.9692	0.9595		0.9817	0.9204	0.9667				0.9108		0.9452	0.8561	0.9530	0.9590	0.9353
ID_A.3_1.5ng 5-C03	0.8656	0.8422		0.8567	0.7841	0.7971				0.9067		0.9799	0.6117	0.9690	0.9333	0.9592
Average PHR:	**0.9276**	**0.9028**	**#DIV/0!**	**0.9070**	**0.8630**	**0.8880**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.9247**	**#DIV/0!**	**0.9279**	**0.7175**	**0.9351**	**0.9492**	**0.9387**
Std Deviation:	**0.0568**	**0.0611**	**#DIV/0!**	**0.0707**	**0.0770**	**0.0906**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.0334**	**#DIV/0!**	**0.0679**	**0.1269**	**0.0788**	**0.0194**	**0.0136**
Min:	**0.8652**	**0.8369**	**0.0000**	**0.8438**	**0.7841**	**0.7827**	**0.0000**	**0.0000**	**0.0000**	**0.9067**	**0.0000**	**0.8093**	**0.6037**	**0.7957**	**0.9246**	**0.9232**
Max:	**0.9716**	**0.9629**	**0.0000**	**0.9861**	**0.9570**	**0.9667**	**0.0000**	**0.0000**	**0.0000**	**0.9840**	**0.0000**	**0.9799**	**0.8561**	**0.9862**	**0.9710**	**0.9592**
Std Error:	**0.0254**	**0.0273**	**#DIV/0!**	**0.0316**	**0.0344**	**0.0405**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.0149**	**#DIV/0!**	**0.0304**	**0.0568**	**0.0352**	**0.0087**	**0.0061**
1.0 dilution																
ID_B.1_1.0ng 5-C01	0.9441	0.6411		0.8333	0.9191	0.9722				0.8496		0.9924	0.7603	0.7393	0.9378	0.7186
ID_B.2_1.0ng 4-B02	0.9806	0.8708		0.9858	0.9390	0.8943				0.9535		0.9350	0.8860	0.9168	0.9894	0.8335
ID_B.3_1.0ng 1-A03	0.9607	0.9160		0.8447	0.9112	0.7898				0.8045		0.9363	0.9781	0.7893	0.8511	0.7123
Average PHR:	**0.9618**	**0.8093**	**#DIV/0!**	**0.8879**	**0.9231**	**0.8855**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.8692**	**#DIV/0!**	**0.9546**	**0.8748**	**0.8151**	**0.9261**	**0.7548**
Std Deviation:	**0.0183**	**0.1474**	**#DIV/0!**	**0.0849**	**0.0143**	**0.0915**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.0764**	**#DIV/0!**	**0.0328**	**0.1093**	**0.0915**	**0.0699**	**0.0682**
Min:	**0.9441**	**0.6411**	**0.0000**	**0.8333**	**0.9112**	**0.7898**	**0.0000**	**0.0000**	**0.0000**	**0.8045**	**0.0000**	**0.9350**	**0.7603**	**0.7393**	**0.8511**	**0.7123**
Max:	**0.9806**	**0.9160**	**0.0000**	**0.9858**	**0.9390**	**0.9722**	**0.0000**	**0.0000**	**0.0000**	**0.9535**	**0.0000**	**0.9924**	**0.9781**	**0.9168**	**0.9894**	**0.8335**
Std Error:	**0.0105**	**0.0851**	**#DIV/0!**	**0.0490**	**0.0083**	**0.0529**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.0441**	**#DIV/0!**	**0.0189**	**0.0631**	**0.0528**	**0.0403**	**0.0394**
.25 Dilution																
ID_D.1_0.25ng 9-E01	0.9716	0.8896		0.6182	0.8634	0.9341				0.9561		0.8171	0.8348	0.8025	0.6647	0.6633
ID_D.3_0.25ng 7-D03	0.6719	0.9185		0.5904	0.9539	0.8543				0.9382		0.8536	0.5661	0.8384	0.9604	0.9639
ID_D.2_0.25ng 8-D02	0.7659	0.7668		0.9693	0.7211	1.0000				0.8519		0.6947	0.5204	0.9604	0.8107	0.7181
Average PHR:	**0.8031**	**0.8583**	**#DIV/0!**	**0.7260**	**0.8461**	**0.9295**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.9154**	**#DIV/0!**	**0.7885**	**0.6404**	**0.8671**	**0.8119**	**0.7817**
Std Deviation:	**0.1533**	**0.0805**	**#DIV/0!**	**0.2111**	**0.1174**	**0.0730**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.0558**	**#DIV/0!**	**0.0832**	**0.1699**	**0.0827**	**0.1478**	**0.1601**
Min:	**0.6719**	**0.7668**	**0.0000**	**0.5904**	**0.7211**	**0.8543**	**0.0000**	**0.0000**	**0.0000**	**0.8519**	**0.0000**	**0.6947**	**0.5204**	**0.8025**	**0.6647**	**0.6633**
Max:	**0.9716**	**0.9185**	**0.0000**	**0.9693**	**0.9539**	**1.0000**	**0.0000**	**0.0000**	**0.0000**	**0.9561**	**0.0000**	**0.8536**	**0.8348**	**0.9604**	**0.9604**	**0.9639**
Std Error:	**0.0885**	**0.0465**	**#DIV/0!**	**0.1219**	**0.0678**	**0.0421**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.0322**	**#DIV/0!**	**0.0480**	**0.0981**	**0.0478**	**0.0854**	**0.0924**

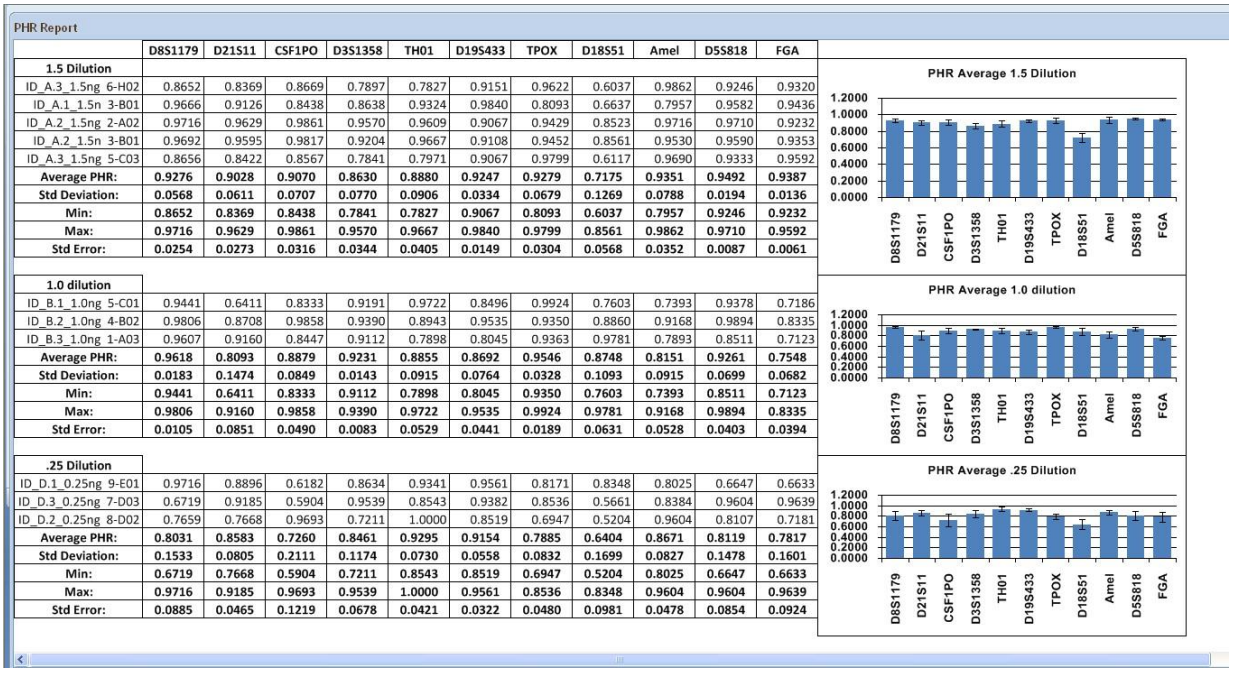
PHR Average 1.5 Dilution

PHR Average 1.0 dilution

PHR Average .25 Dilution

FIGURE 8.18 Example of a PHR Report

Any locus that does not contain data because there was only one allele at that locus can be hidden from the report to make the report easier to be read. To hide a locus, click on the locus title (multiple loci can be selected by holding down the Ctrl key and clicking on each locus). Then hit the F5 button. All selected loci will be hidden from the report. To redisplay the hidden loci, hit the F6 button.



PHR Report

	D8S1179	D21S11	CSF1PO	D3S1358	TH01	D19S433	TPOX	D18S51	Amel	D5S818	FGA
1.5 Dilution											
ID_A.3_1.5ng 6-H02	0.8652	0.8369	0.8669	0.7897	0.7827	0.9151	0.9622	0.6037	0.9862	0.9246	0.9320
ID_A.1_1.5n 3-B01	0.9666	0.9126	0.8438	0.8638	0.9324	0.9840	0.8093	0.6637	0.7957	0.9582	0.9436
ID_A.2_1.5ng 2-A02	0.9716	0.9629	0.9861	0.9570	0.9609	0.9067	0.9429	0.8523	0.9716	0.9710	0.9232
ID_A.2_1.5n 3-B01	0.9692	0.9595	0.9817	0.9204	0.9667	0.9108	0.9452	0.8561	0.9530	0.9590	0.9353
ID_A.3_1.5ng 5-C03	0.8656	0.8422	0.8567	0.7841	0.7971	0.9067	0.9799	0.6117	0.9690	0.9333	0.9592
Average PHR:	**0.9276**	**0.9028**	**0.9070**	**0.8630**	**0.8880**	**0.9247**	**0.9279**	**0.7175**	**0.9351**	**0.9492**	**0.9387**
Std Deviation:	**0.0568**	**0.0611**	**0.0707**	**0.0770**	**0.0906**	**0.0334**	**0.0679**	**0.1269**	**0.0788**	**0.0194**	**0.0136**
Min:	**0.8652**	**0.8369**	**0.8438**	**0.7841**	**0.7827**	**0.9067**	**0.8093**	**0.6037**	**0.7957**	**0.9246**	**0.9232**
Max:	**0.9716**	**0.9629**	**0.9861**	**0.9570**	**0.9667**	**0.9840**	**0.9799**	**0.8561**	**0.9862**	**0.9710**	**0.9592**
Std Error:	**0.0254**	**0.0273**	**0.0316**	**0.0344**	**0.0405**	**0.0149**	**0.0304**	**0.0568**	**0.0352**	**0.0087**	**0.0061**
1.0 dilution											
ID_B.1_1.0ng 5-C01	0.9441	0.6411	0.8333	0.9191	0.9722	0.8496	0.9924	0.7603	0.7393	0.9378	0.7186
ID_B.2_1.0ng 4-B02	0.9806	0.8708	0.9858	0.9390	0.8943	0.9535	0.9350	0.8860	0.9168	0.9894	0.8335
ID_B.3_1.0ng 1-A03	0.9607	0.9160	0.8447	0.9112	0.7898	0.8045	0.9363	0.9781	0.7893	0.8511	0.7123
Average PHR:	**0.9618**	**0.8093**	**0.8879**	**0.9231**	**0.8855**	**0.8692**	**0.9546**	**0.8748**	**0.8151**	**0.9261**	**0.7548**
Std Deviation:	**0.0183**	**0.1474**	**0.0849**	**0.0143**	**0.0915**	**0.0764**	**0.0328**	**0.1093**	**0.0915**	**0.0699**	**0.0682**
Min:	**0.9441**	**0.6411**	**0.8333**	**0.9112**	**0.7898**	**0.8045**	**0.9350**	**0.7603**	**0.7393**	**0.8511**	**0.7123**
Max:	**0.9806**	**0.9160**	**0.9858**	**0.9390**	**0.9722**	**0.9535**	**0.9924**	**0.9781**	**0.9168**	**0.9894**	**0.8335**
Std Error:	**0.0105**	**0.0851**	**0.0490**	**0.0083**	**0.0529**	**0.0441**	**0.0189**	**0.0631**	**0.0528**	**0.0403**	**0.0394**
.25 Dilution											
ID_D.1_0.25ng 9-E01	0.9716	0.8896	0.6182	0.8634	0.9341	0.9561	0.8171	0.8348	0.8025	0.6647	0.6633
ID_D.3_0.25ng 7-D03	0.6719	0.9185	0.5904	0.9539	0.8543	0.9382	0.8536	0.5661	0.8384	0.9604	0.9639
ID_D.2_0.25ng 8-D02	0.7659	0.7668	0.9693	0.7211	1.0000	0.8519	0.6947	0.5204	0.9604	0.8107	0.7181
Average PHR:	**0.8031**	**0.8583**	**0.7260**	**0.8461**	**0.9295**	**0.9154**	**0.7885**	**0.6404**	**0.8671**	**0.8119**	**0.7817**
Std Deviation:	**0.1533**	**0.0805**	**0.2111**	**0.1174**	**0.0730**	**0.0558**	**0.0832**	**0.1699**	**0.0827**	**0.1478**	**0.1601**
Min:	**0.6719**	**0.7668**	**0.5904**	**0.7211**	**0.8543**	**0.8519**	**0.6947**	**0.5204**	**0.8025**	**0.6647**	**0.6633**
Max:	**0.9716**	**0.9185**	**0.9693**	**0.9539**	**1.0000**	**0.9561**	**0.8536**	**0.8348**	**0.9604**	**0.9604**	**0.9639**
Std Error:	**0.0885**	**0.0465**	**0.1219**	**0.0678**	**0.0421**	**0.0322**	**0.0480**	**0.0981**	**0.0478**	**0.0854**	**0.0924**

PHR Average 1.5 Dilution

PHR Average 1.0 dilution

PHR Average .25 Dilution

FIGURE 8.19 Example of a PHR Report with hidden locus

On the left hand side of the report is the PHR at each locus. The average PHR can be seen at the end of each table, as well as the standard deviation, the minimum PHR, the maximum PHR, and the standard error.

PHR Report

	D8S1179	D21S11	CSF1PO	D3S1358	TH01	D19S433	TPOX	D18S51	Amel	D5S818	FGA
1.5 Dilution											
ID_A.3_1.5ng 6-H02	0.8652	0.8369	0.8669	0.7897	0.7827	0.9151	0.9622	0.6037	0.9862	0.9246	0.9320
ID_A.1_1.5n 3-B01	0.9666	0.9126	0.8438	0.8638	0.9324	0.9840	0.8093	0.6637	0.7957	0.9582	0.9436
ID_A.2_1.5ng 2-A02	0.9716	0.9629	0.9861	0.9570	0.9609	0.9067	0.9429	0.8523	0.9716	0.9710	0.9232
ID_A.2_1.5n 3-B01	0.9692	0.9595	0.9817	0.9204	0.9667	0.9108	0.9452	0.8561	0.9530	0.9590	0.9353
ID_A.3_1.5ng 5-C03	0.8656	0.8422	0.8567	0.7841	0.7971	0.9067	0.9799	0.6117	0.9690	0.9333	0.9592
Average PHR:	**0.9276**	**0.9028**	**0.9070**	**0.8630**	**0.8880**	**0.9247**	**0.9279**	**0.7175**	**0.9351**	**0.9492**	**0.9387**
Std Deviation:	**0.0568**	**0.0611**	**0.0707**	**0.0770**	**0.0906**	**0.0334**	**0.0679**	**0.1269**	**0.0788**	**0.0194**	**0.0136**
Min:	**0.8652**	**0.8369**	**0.8438**	**0.7841**	**0.7827**	**0.9067**	**0.8093**	**0.6037**	**0.7957**	**0.9246**	**0.9232**
Max:	**0.9716**	**0.9629**	**0.9861**	**0.9570**	**0.9667**	**0.9840**	**0.9799**	**0.8561**	**0.9862**	**0.9710**	**0.9592**
Std Error:	**0.0254**	**0.0273**	**0.0316**	**0.0344**	**0.0405**	**0.0149**	**0.0304**	**0.0568**	**0.0352**	**0.0087**	**0.0061**
1.0 dilution											
ID_B.1_1.0ng 5-C01	0.9441	0.6411	0.8333	0.9191	0.9722	0.8496	0.9924	0.7603	0.7393	0.9378	0.7186
ID_B.2_1.0ng 4-B02	0.9806	0.8708	0.9858	0.9390	0.8943	0.9535	0.9350	0.8860	0.9168	0.9894	0.8335
ID_B.3_1.0ng 1-A03	0.9607	0.9160	0.8447	0.9112	0.7898	0.8045	0.9363	0.9781	0.7893	0.8511	0.7123
Average PHR:	**0.9618**	**0.8093**	**0.8879**	**0.9231**	**0.8855**	**0.8692**	**0.9546**	**0.8748**	**0.8151**	**0.9261**	**0.7548**
Std Deviation:	**0.0183**	**0.1474**	**0.0849**	**0.0143**	**0.0915**	**0.0764**	**0.0328**	**0.1093**	**0.0915**	**0.0699**	**0.0682**
Min:	**0.9441**	**0.6411**	**0.8333**	**0.9112**	**0.7898**	**0.8045**	**0.9350**	**0.7603**	**0.7393**	**0.8511**	**0.7123**
Max:	**0.9806**	**0.9160**	**0.9858**	**0.9390**	**0.9722**	**0.9535**	**0.9924**	**0.9781**	**0.9168**	**0.9894**	**0.8335**
Std Error:	**0.0105**	**0.0851**	**0.0490**	**0.0083**	**0.0529**	**0.0441**	**0.0189**	**0.0631**	**0.0528**	**0.0403**	**0.0394**
.25 Dilution											
ID_D.1_0.25ng 9-E01	0.9716	0.8896	0.6182	0.8634	0.9341	0.9561	0.8171	0.8348	0.8025	0.6647	0.6633
ID_D.3_0.25ng 7-D03	0.6719	0.9185	0.5904	0.9539	0.8543	0.9382	0.8536	0.5661	0.8384	0.9604	0.9639
ID_D.2_0.25ng 8-D02	0.7659	0.7668	0.9693	0.7211	1.0000	0.8519	0.6947	0.5204	0.9604	0.8107	0.7181
Average PHR:	**0.8031**	**0.8583**	**0.7260**	**0.8461**	**0.9295**	**0.9154**	**0.7885**	**0.6404**	**0.8671**	**0.8119**	**0.7817**
Std Deviation:	**0.1533**	**0.0805**	**0.2111**	**0.1174**	**0.0730**	**0.0558**	**0.0832**	**0.1699**	**0.0827**	**0.1478**	**0.1601**
Min:	**0.6719**	**0.7668**	**0.5904**	**0.7211**	**0.8543**	**0.8519**	**0.6947**	**0.5204**	**0.8025**	**0.6647**	**0.6633**
Max:	**0.9716**	**0.9185**	**0.9693**	**0.9539**	**1.0000**	**0.9561**	**0.8536**	**0.8348**	**0.9604**	**0.9604**	**0.9639**
Std Error:	**0.0885**	**0.0465**	**0.1219**	**0.0678**	**0.0421**	**0.0322**	**0.0480**	**0.0981**	**0.0478**	**0.0854**	**0.0924**

FIGURE 8.20 Example of the left hand side of the PHR Report

A graph appears to the right of the loci that displays the average PHR for each locus by Dilution table.

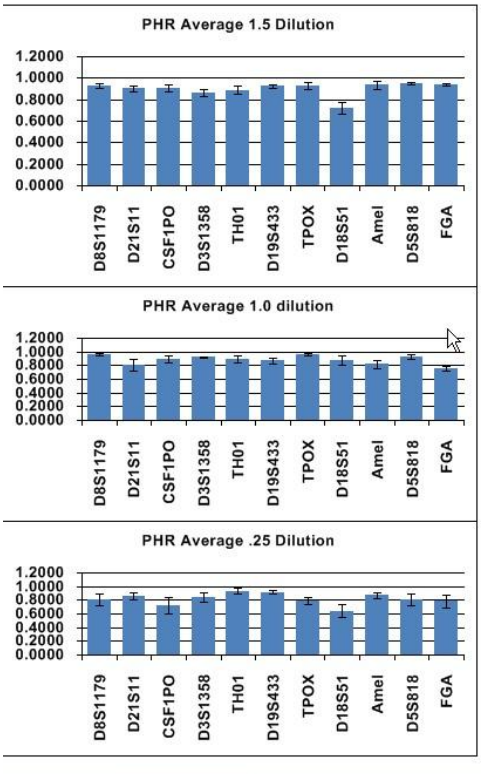


FIGURE 8.21 Example of the right hand side of the PHR Report

TemplateReport

The **Template Report** allows you to create your own customized template report. It allows you to create a template in Excel and then incorporate data from ArmedXpert into that customized template. There is a specific guide on the ArmedXpert.com website to explain how to create a template in Excel.

To open the Template report, first make sure the sample table that you want to use for the report is open in ArmedXpert.

Click on the **Template Report** button.

FIGURE 8.22 Template Report Button

The "Select the excel workbook to use as a template for the report" Window appears. Click on the previously saved custom spreadsheet and click open.

The Template Report Window will appear with the cell names you labeled on the custom spreadsheet.

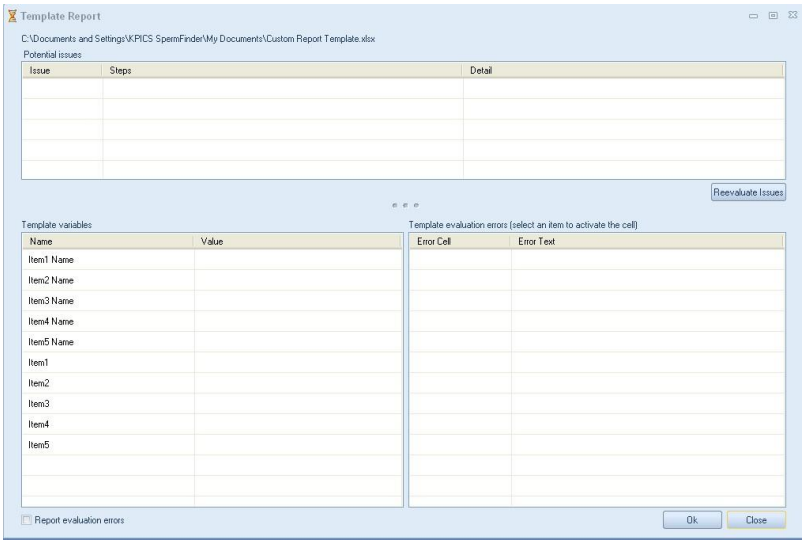


FIGURE 8.23 Template Report Window

Double click on the cell in the Value column across from any of the rows in the Template Report Window. Type in or copy the appropriate name from the sample table that you want to use. Fill in the rest of the rows respectively.

Click Ok to generate the report.

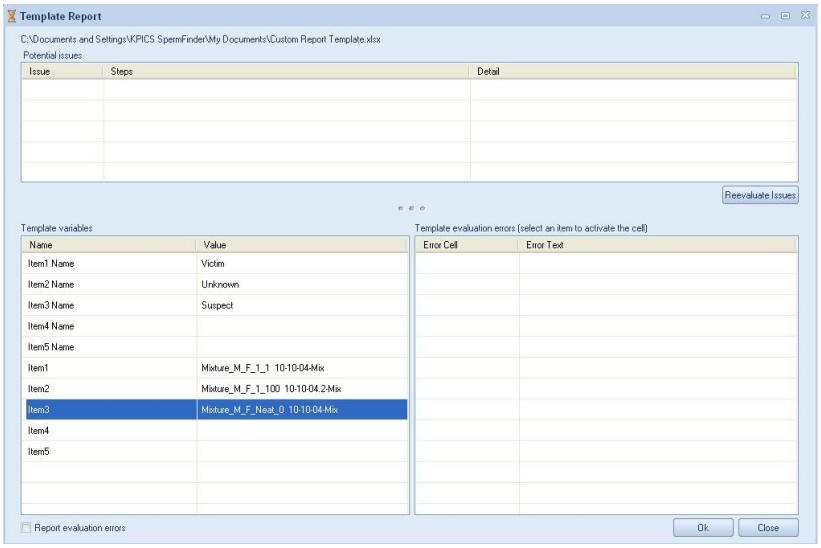


FIGURE 8.24 Template Report Window filled in.

The right box on the Template Report Window displays the errors. Since Items 4 & 5 were not used, there is an error for each empty cell.

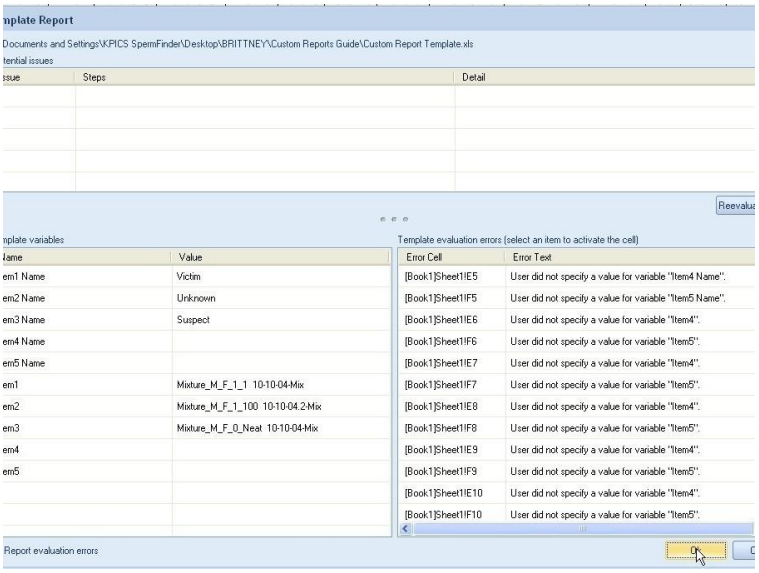

Documents and Settings\KPICS SpermFinder\Desktop\BRITTNEY\Custom Reports Guide\Custom Report Template.xls
Steps
Detail
Value
Victim
Unknown
Suspect
Mixture_M_F_1_1 10-10-04-Mix
Mixture_M_F_1_100 10-10-04.2-Mix
Mixture_M_F_0_Neat 10-10-04-Mix
Error Cell
Error Text
[Book1]Sheet1!E5
User did not specify a value for variable "Item4 Name".
[Book1]Sheet1!F5
User did not specify a value for variable "Item5 Name".
[Book1]Sheet1!E6
User did not specify a value for variable "Item4".
[Book1]Sheet1!F6
User did not specify a value for variable "Item5".
[Book1]Sheet1!E7
User did not specify a value for variable "Item4".
[Book1]Sheet1!F7
User did not specify a value for variable "Item5".
[Book1]Sheet1!E8
User did not specify a value for variable "Item4".
[Book1]Sheet1!F8
User did not specify a value for variable "Item5".
[Book1]Sheet1!E9
User did not specify a value for variable "Item4".
[Book1]Sheet1!F9
User did not specify a value for variable "Item5".
[Book1]Sheet1!E10
User did not specify a value for variable "Item4".
[Book1]Sheet1!F10
User did not specify a value for variable "Item5".

FIGURE 8.25 Template Report Window with errors.

Minimize the Template Report Window and view the User-defined report that is automatically generated in ArmedXpert. This report may be edited; the Case Number, Date, and Comments may be entered directly on the sheet.

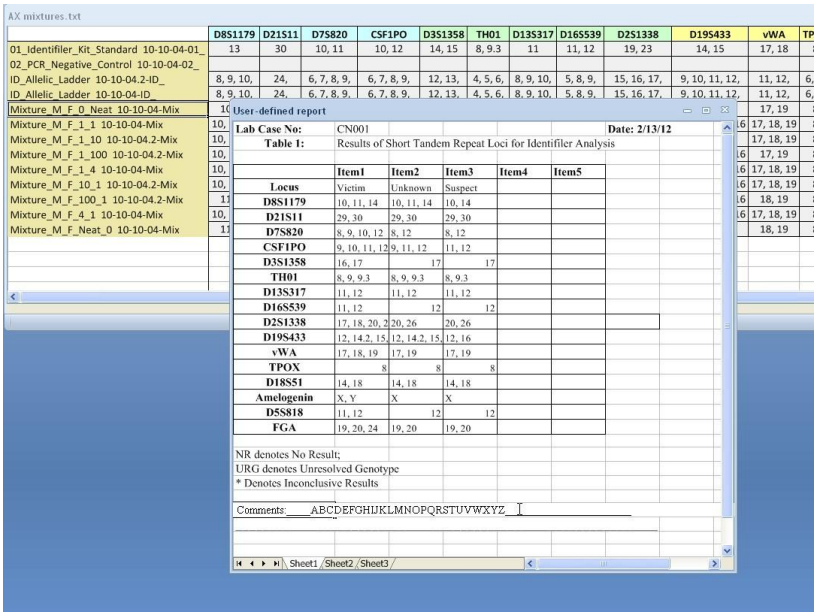


FIGURE 8.26 Template Report.

NOTE: Ensure that the original excel spreadsheet has wide enough columns to prevent any numbers from being cut off when viewing the User-defined report. The cell widths cannot be edited in ArmedXpert. If you right click on the User-defined report, a variety of editing options are available.

User Defined

The **User Defined** feature allows you to run plug in reports that you have added to ArmedXpert. Click on the "User Defined" button and the available plug in will show. Select the appropriate plug in.

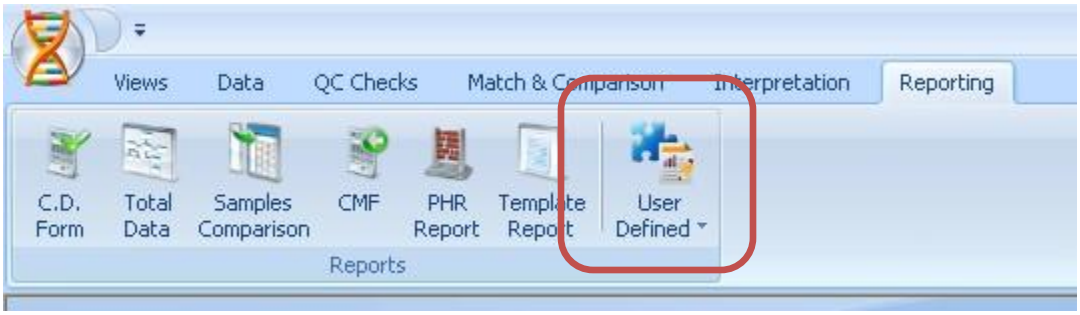


FIGURE 8.27 User Defined Button.

Appendix A: Hot Keys

Function Keys:

F1	Selects Reference and Finds Where Reference is Included. (Make sure you are on the sample name that you want selected when hitting F1)
F2	Clear Match
F4	Print the selected Page
F5	Hide selected Rows or Columns
F6	Show all Rows and Columns
F7	Show Controls
F8	Show Samples
F9	Show Alleles
F10	Show RFUs
F11	Show Base Pairs

Alt Keys:

Alt, then right or left click mouse	Open the Mixture Interpretation window, by holding down the "alt" button and clicking on any of the loci or the sample name for the sample you wish to interpret.
Alt →	Increase Column Width
Alt ←	Decrease Column Width
Alt ↑	Increase Row Height
Alt ↓	Decrease Row Height
Alt H	Displays Headings
Alt O	Opens the Organize Window
Alt S	Opens the Sort Samples Window

Misc Keys:

Ctrl ↑	Moves to Top Row
Ctrl Home	Moves to First Row and First Locus Position
Ctrl End	Moves to Last Row and Last Locus Position
Esc	Clears pick via mouse option
Tab	Moves to Next Cell in Row
Shift Tab	Moves to Previous Cell in Row

Appendix B: Contact Information

If you have questions about ArmedXpert that this manual does not answer, be sure to visit the ArmedXpert online support site at:

http://www.armedxpert.com

The online support site offers additional information about ArmedXpert, including:

- A PDF version of this ArmedXpert User's Manual
- Specific guides about different features and options in ArmedXpert
- Frequently Asked Question

You can also contact NicheVision Customer Support by sending email to support@nichevision.com or by calling 1-866-840-3758 or 330-252-2711.

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